PULP & PAPER INDUSTRY

"The Cellulose Age"

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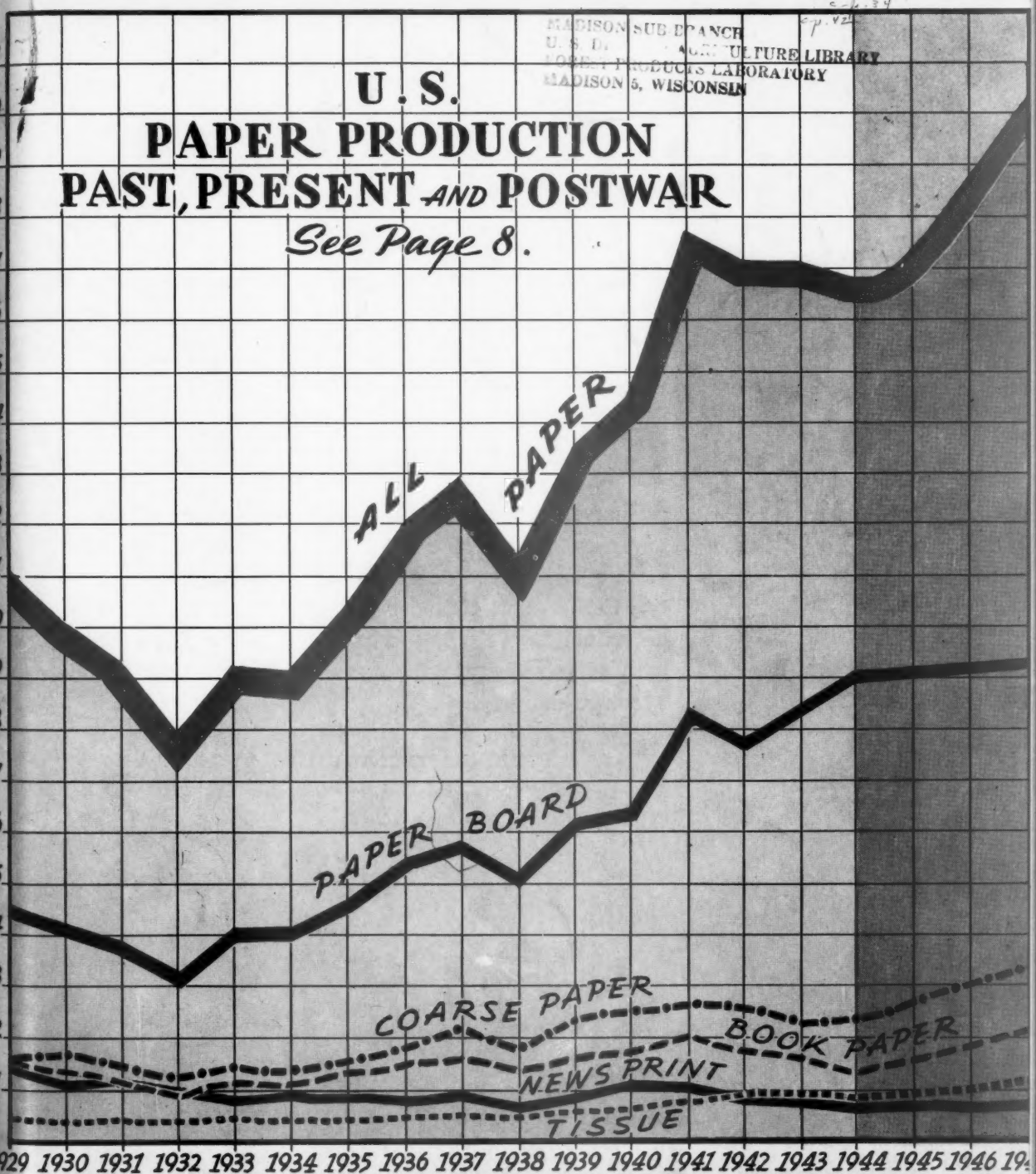
U. S. PAPER PRODUCTION PAST, PRESENT AND POSTWAR

See Page 8.



Vol. 19 JANUARY, 1945

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MILLER FREEMAN
President

LAWRENCE K. SMITH
Manager

ALBERT WILSON
Editor

MILLER FREEMAN, JR.
Circulation Manager

PUBLISHING OFFICE
71 Columbia St.
Seattle 4, Wash.
Tel. MAin 1626

EASTERN HEADQUARTERS
Nard Jones
Associate Editor
370 Lexington Ave. (17 E. 42d St.)
New York 17, N. Y.
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SOUTHERN HEADQUARTERS
5005 Constance St.,
New Orleans 15, La.

OTHER OFFICES
Chester A. Fee
Associate Editor
1220 S. W. Morrison St.
Portland 5, Ore.
Tel. AT. 9593-9594

Stuart Leete
121 Second St.
San Francisco 5, Calif.
Tel. GA. 5887

Arthur Ponsford
124 W. Fourth St.
Los Angeles 13, Calif.
Tel. MUtual 8196

Charles L. Shaw
675 W. Hastings St.
Vancouver, B. C.
Tel. Marine 1520

W. E. Crosby
Forestry Editor
(Seattle Office)

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FUTURE OF THE INDUSTRY

Editorial

AUTHORIZED announcements from various established operating companies reveal that the North American pulp and paper industry today is on the threshold of a period of increasing capacity through modernization of mills or, in a few cases, building new mills.

New or rebuilt mills are rising or will rise in regions as widely separated as Ontario and Washington state, Mexico and British Columbia and possibly in the Gulf Coast of the United States.

New England and New York mills, in some cases, will be rebuilt, changing their processes and even their raw materials, utilizing species of wood which have rarely been used before in this industry.

In this issue we are publishing a forecast, beginning on the next page, of future demand of paper and paperboard in the United States. Following it are opinions we have gathered from outstanding responsible leaders in the industry, some of whom differ quite frankly with the conclusions in the forecast. All of this material we hope will be of benefit to the various units of the North American industry in planning postwar activities, including all forms of expansion.

There will be other analyses of postwar markets forthcoming in the not too distant future, prepared by responsible people and based on reliable sources of information. But not any one, perhaps, will be entirely right or entirely wrong.

Most predictions, by their very nature, are bound to stir up discussion. That will be all to the good. The more discussion there is of the facts at hand, the more valuable information the industry will have on which to base intelligent postwar planning.

Everyone with the welfare of the industry at heart is hopeful and confident the industry is not in for another era of over-inflation. The kraft industry, in which most interest is being shown and the greatest new investment being made, has never caught up with its market in all its history. For those who are venturing in this field, the entire industry hopes that it never will reach a point of expansion exceeding demand. If it does, the entire industry is bound to pay a part of the penalty.

This journal is devoted to sound development of the industry. We have no intention of booming the industry or in any way exaggerating its possibilities.

We are against developments anywhere in the industry that are carried on by speculators who cannot give them the sound basis they require. We hope we can be of service in helping the industry to guard against over-inflation, which always must result in serious deflation and resulting evil to every branch and region of the North American pulp and paper industry.

Large capital, exact technical and operating knowledge and expert long range planning are essentials for new enterprises in this industry. PULP & PAPER INDUSTRY is for the promoter of legitimate enterprise. It is against the mere exploiter.

Studies and forecasts of the future, if seriously and scientifically compiled, should be welcomed. Opposing views should be equally welcomed and given polite and equally serious consideration.

"We live on paper. It is almost as important to us as air and water."—Donald Nelson.

COMPLETE HOUSLEY REPORT ON POST

Forecasts of Worldwide Trade and Produc- Grades . . . . . With Statistical Tables and and PreWar Trends in U. S., Canada and Other Opinions of a Number of Outstanding

By CLIFTON W. HOUSLEY

Chief, Program and Statistics Staff, Paper Division, War Production Board, Washington, D. C., and formerly in the U. S. State Department.

The following survey has been prepared for the purpose of setting forth recent developments in the production and consumption of pulp, paper, and paperboard especially during the war years, and for the further purpose of analyzing the more important factors which undoubtedly will affect the postwar demands for these products. Paper and paperboard have made a splendid contribution to our war effort.

It is, of course, impossible to determine exact levels of our postwar pulp and paper demands. Undoubtedly many factors will arise which will change completely any demand program developed today regardless of how feasible or logical it appears. The data presented herein on postwar levels of supply and demand are estimates which in my opinion appear most reasonable in the light of existing conditions. It is hoped that this analysis will contribute to the thinking of industry and others on problems which almost certainly will arise in the postwar years. If the report accomplishes this objective, it will have amply served its purpose. (Ed. note—This is not an official War Production Board report but a personal project undertaken by Mr. Housley. A summary of the report was published in our December 1944 issue.)

CLIFTON W. HOUSLEY—". . . the projected level of 20,000,000 tons (U. S. paper production two years after V-E Day) is 2,200,000 tons above the peak production of 1941. . ."

THE return of the paper industry to the pursuit of supplying peacetime demand offers unprecedented possibilities, and a challenge, to the producers of paper and paper products. Free from the restrictions of war controls, paper and paperboard production in this country points to a new high level which may well approach 20 million tons annually in the early postwar period.[1] The achievement of this level of production is predicated on the assumption that there will be an adequate supply of raw material and labor, that there will be a continuing high level of industrial activity after the war, and that the paper industry itself will be fully prepared — production and distribution-wise — to meet the expanding demands for paper and paper products.

The release of pent-up purchasing power for consumers' goods of all types will create a demand for

[1]The projected postwar supply and demand estimates developed in this report refer to the second year following victory in Europe (V-E). Thus, for example, if V-E occurs in 1945, the second year following V-E would refer to 1947, or if V-E should not occur until 1946, then the second year following V-E would refer to 1948.

OUR COVER "PRODUCTION CHART"--

. . . shows graphically the postwar trends as forecast for the United States paper industry by Clifton W. Housley of the Paper Division of the War Production Board, in his own report which begins on this page.

It will be noted that in our cover chart we have arbitrarily made 1947 the year in which Mr. Housley's predictions are to be fulfilled. Actually, in his report, it will be seen that he merely states that a total paper production of 20,070,000 tons may be expected in the second year after Victory in Europe. This will be in 1947 if V-E Day is in 1945.

The previous high peak for all paper, as the chart shows, was in 1941, when 17,762,365 tons were produced.

It is interesting to note that Mr. Housley predicts paperboard and coarse paper will reach much higher levels than they ever before attained (9,280,000 tons and 3,240,000 tons, respectively).

Book paper—one of the hardest hit grades during the war—is expected to make a strong comeback, probably helped along by greatly increased mass production of machine coated papers, as reported in our November issue.

The heavy black line for newsprint is interesting. According to Mr. Housley, newsprint has, apparently, seen its best days. Another interesting line is for tissue, in which many developments are expected.

If you will look again at the red line for all paper, you will see that we have carried it through most of 1945 before showing a rise. Mr. Housley is not personally responsible for this segment of the curve. We have based this on information which PULP & PAPER INDUSTRY obtained independently in recent interviews with War Production Board officials who predicted that the first six months of 1945 will be the tightest period in the entire war for paper.

WAR PAPER and PAPERBOARD DEMAND

tion in Pulp and Paper, by Countries and Graphs Offering Comparisons with Present Europe.... Comments upon this Report and Leaders and Authorities follow on Page 22

paper mill products which has as yet been unapproached in this country, particularly for papers for advertising and sales purposes, papers for business and commercial uses (without which reconversion of our economy from war to peace time could not be accomplished), book papers of all types, coarse papers for wrapping and fabrication purposes, special industrial papers, and paperboard, the latter particularly extending the gains it has already made in the packaging and shipping fields.

In addition to the demands of the domestic market, there will be a sizable foreign demand for book, business, and industrial papers, particularly during the period of military occupation by the United Nations and while mills in Europe are being brought back into normal production. A factor bearing on the European demand will be the need for completely revised books of an educational, political, social and economic nature, as well as other literature for use in Germany and most of the countries formerly occupied by the Axis. Moreover, the mere maintenance of a sizable army of occupation by the United Nations will require a large amount of paper.

The paper industry in the United States, fortunately, is in a position to take advantage of a large share of the postwar demands immediately following the end of hostilities, inasmuch as existing physical equipment now installed in the mills can readily be used for peacetime purposes. However, to satisfy fully the potential postwar demands for paper, and to be fully competitive, will require the modernization and use of more efficient machinery and equipment in many units of the industry to replace that which has worn out or become obsolete. Of equal or greater importance to industry will be the necessity of securing for itself a larger supply of pulp, particularly from domestic sources, inasmuch as it is not expected that Scandinavian pulp will enter this market in substantial volume during the early postwar years. At the present time, the domestic production of pulp, together with that imported from Canada, is considerably below the quantity needed to meet United States demands and it is essential that plans be made now to increase domestic supplies, both through production and imports, so that adequate pulp

TOTAL PAPER PRODUCTION IN UNITED STATES

(Tons of 2,000 lbs.)

Past, Present and Future of U. S. Paper and Paperboard

	1939	1940	1941	1942	1943	1944	1947*
						(Estimate)	(Estimate)
Newsprint	954,259	1,056,304	1,043,999	967,211	811,309	715,000	850,000
Book	1,534,591	1,655,423	2,025,891	1,704,029	1,592,878	1,429,000	
Groundwood	540,342	550,453	642,676	610,168	585,673	566,000	4,300,000
Fine	723,302	735,753	950,014	1,055,475	1,020,601	956,000	
Wrapping (Coarse)	2,238,993	2,500,818	2,778,441	2,713,738	2,501,637	2,529,000	3,240,000
Tissue	648,429	733,894	175,336	170,653	162,766	156,000	1,100,000
Sanitary	----	----	737,538	811,343	806,023	808,000	
Absorbent	121,717	129,410	61,941	64,530	88,254	97,000	†300,000
Building Papers	659,090	682,460	917,912	1,001,383	877,582	902,000	1,000,000
Other Paper	63,625	60,120	28,657	16,148	129	----	----
Total Paper	7,484,148	8,104,635	9,362,405	9,114,678	8,415,254	8,158,000	10,790,000
Container Board	3,361,441	3,434,834	4,183,846	3,755,438	4,087,972	4,337,000	4,300,000
Folding Boxboard	1,359,961	1,416,452	1,841,916	1,711,795	2,015,640	2,086,000	3,300,000
Setup Boxboard	865,485	898,549	1,238,850	996,688	829,102	749,000	
Tube Stock‡	----	----	----	164,785	307,308	----	----
Building Boards	114,505	179,443	761,480	1,052,054	1,063,851	1,121,000	1,000,000
Other Boards	324,102	449,796	373,868	288,424	284,963	793,000	680,000
Total Paperboard	6,025,494	6,379,074	8,399,960	7,969,184	8,620,434	9,086,000	9,280,000
TOTAL	13,509,642	14,483,709	17,762,365	17,083,862	17,035,688	17,244,000	20,070,000

Source: 1939-1943: Bureau of Census, U. S. Department of Commerce.
*1947 estimate is actually for the second year after V-E Day, according to the Housley Report published on these pages. Therefore, if V-E Day was delayed until 1946, the estimate would be for 1948.
1944 estimate by Paper Division, WPB.
†This total is for special industrial papers as well as absorbent papers.
‡Tube Stock in 1939, 1940 and 1941 is included under Setup Boxboard and 1944 and 1947 under Other Boards.

will be assured for paper manufacture. Since any program calling for a substantially higher level of paper production is limited by the amount of pulp available to produce the paper, it will be the purpose of this report first, to review briefly the factors which may affect the postwar supply of pulp, and then, in the light of these factors, to analyze the probable trends in the production of, and demand for, paper and paperboard.

Supply of Pulp

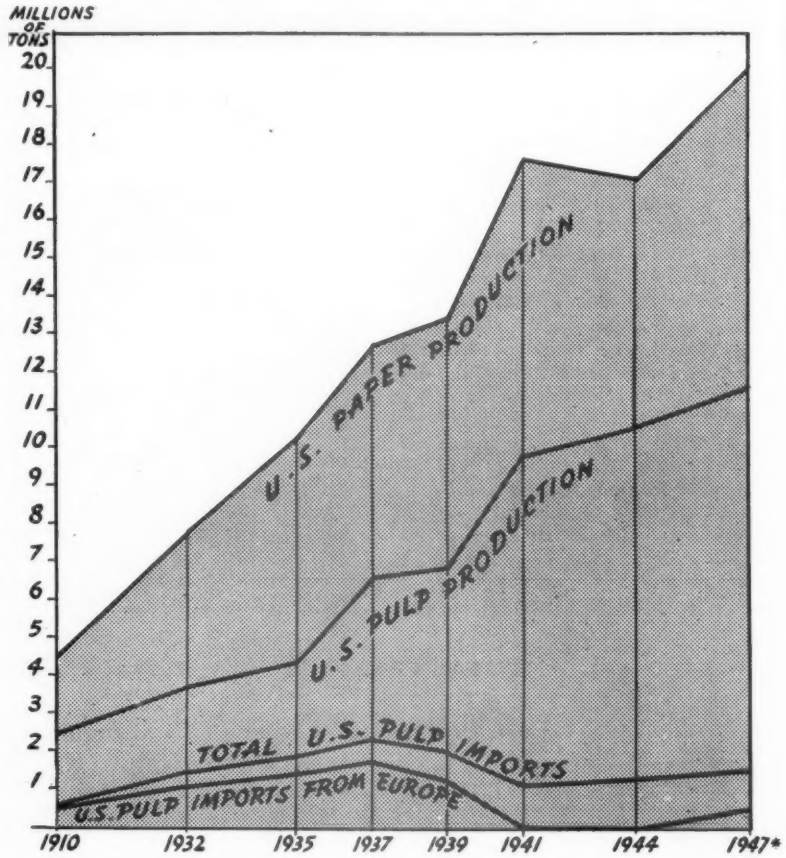
● **Capacity.**—The world capacity of pulp mills in the immediate pre-war years is estimated at 28 million tons annually. United States pulp mills in 1939 represented about 34% of this total, which was equivalent to an annual capacity of somewhat more than 9.5 million tons. Since 1939, the capacity of domestic mills has increased to about 12.7 million tons per annum and this capacity now represents a higher percentage of the world total than it did in pre-war years because of the fact that a number of mills in the Scandinavian and other European countries have been destroyed as a result of the war, or dismantled and the equipment and machinery diverted to other uses.

Production and Apparent Consumption

The production of pulp in Europe increased from 8.2 million tons in 1931 to 11 million tons in 1935 and to 13.6 million tons in 1937, the peak production year. Sweden, Germany, Finland and Norway accounted for the bulk of this production, with these four countries producing about 76% of the total European pulp during the period 1935-37. Apparent consumption of pulp in Europe, based on data published by the United States Pulp Producers Association, amounted to 9.3 million tons in 1935 and to 11.5 million tons in 1937. The excess of production over consumption in these years went in part to exports from Scandinavian countries to non-European countries — principally to the United States, Japan, and South American countries — and in part to additions to inventories in other European countries. Thus, assuming the demand for pulp in Europe during the second year following V-E is for 10 million tons, which is slightly higher than the 1935 level of 9.3 million tons, and that European production in that year will

Past—Present—Future of U. S. Paper Production and Sources of Pulp

A spectacular rise in U. S. paper output and independence of pulp supply is dramatized in this chart. In war years U. S. made more paper than ever before without European help. The widening span between paper and total supply of pulp in recent years indicates the increased use of waste paper and other filler.



*The forecast is made for 1947 on the assumption that Victory in Europe will occur in 1945. The Housley report on these pages makes its forecasts for the second year after V-E Day, regardless of when that event occurs.

WOOD PULP: Combined Exports of Sweden, Norway and Finland

(1,000 tons)

Exports to	1935 Quantity	1935 % of Total	1937 Quantity	1937 % of Total
United States	1,277	30.2	1,466	28.4
European Countries	2,635	62.4	3,174	61.5
South America	82	1.9	171	3.3
Japan	136	3.2	222	4.3
Other Countries	94	2.3	125	2.4
Total	4,224	100.0	5,158	100.0

Source: World Wood Pulp Statistics, U. S. Pulp Producers Association, 1937 and 1938.

THE WOOD PULP NEEDED BY U. S. MILLS TO FULFILL EXPECTED DEMAND FOR PAPER TWO YEARS AFTER V-E DAY IS 12,860,300 TONS.

That figure is 70,300 tons over the estimated pulp capacity of the nation. As shown below, it does not include an additional 50,000 tons of pulp which will be needed in the U. S. for rayon and other non-paper uses, according to the predictions in the Housley report.

However, it is predicted actual U. S. pulp production two years after V-E Day will be only 11,700,000 tons, a big increase over figures for this year and 1943 and 1942, as shown below. This is expected to be augmented by 1,000,000 tons from Canada and 500,000 tons from Europe.

WOOD PULP: United States Production 1942 and 1943, and Estimated Production and Pulp Capacity, 1944, by Grades

(In thousands of short tons)

Grade	1942	1943	1944	
	Production	Production	Estimated Production	Estimated Pulp Capacity *
Total, All Grades	10,783	9,627	10,106	12,790
Sulphite	2,930	2,436	2,385	3,399
Sulphate	4,738	4,236	4,562	5,530
Soda	462	419	413	714
Groundwood	1,756	1,564	1,618	2,100
Miscellaneous	a/ 897	a/ 972	a/ 1,128	b/ 1,047

a Includes screenings and off-quality in addition to semi-chemical asplund, defibrated and exploded wood pulp.

b Includes semi-chemical, asplund, defibrated and exploded wood pulp only. Does not include screenings and off-quality grades which production is a by product of other grades of pulp.

Source: Production 1942 and 1943—U. S. Dept. of Commerce, Bureau of Census.

Capacity and Estimated Production 1944—Paper Division, WPB.

*Estimates of annual capacity have been based on the highest quarterly production attained during the period October, 1941, through December, 1942, and adjusted for machinery added since 1942.

not exceed 10.8 million tons,[2] the total surplus available for export to non-European countries will be about 800,000 tons. The foregoing estimate of European demand takes into consideration pulp requirements for the manufacture of paper and paperboard, rayon, cellophane, plastics, and other non-paper production, as well as the pulp needed to replenish inventories in the countries of Europe. If, however, inventories are substantially lower than have been estimated, the net exportable surplus of pulp from Europe will be less than the 800,000 tons indicated. United States pulp imports, in fact, from Scandinavian countries in the second year following V-E are not expected to exceed 500,000 tons annually.

The foregoing estimate concerning the European pulp situation in this postwar period is strengthened when we examine the declines which have taken place in two of the principal pulp producing and exporting countries of Europe. Swedish pulp output declined from 3.9 million tons in 1937 to 3.5 million tons in 1939, and to 1.6 million tons in 1942. Swedish production thus declined to less than half of its producing capacity during this period. Undoubtedly this capacity can and will be returned to production immediately after the war, but even so the bulk of this production will be needed to supply European demands for paper and other uses such as rayon and plastics.

The outlook respecting Finnish pulp is less certain than that for Sweden. Production in Finland fell from 2.4 million tons in 1937 to 1.8 million tons in 1939 and to an estimated 700,000-ton level in 1942. The full extent to which Finnish pulp mills have suffered as a result of the war is not known. However, it is assumed that fairly important part of its producing equipment has deteriorated or been made unusable or destroyed. In any event, it is reasonably certain that Finnish pulp will not enter the United States market in quantities anywhere approaching that which it did prior to the war. This is particularly true in view of unofficial reports on the U.S.S.R.-Finnish peace terms which indicate that Finland, in addition to ceding certain territorial areas to U.S.S.R., must also pay 300 million dollars to Russia in commodities (wood, cellulose, paper and ships) over the next six-year period. Therefore, a large part of Finland's wood, cellulose, and

[2]The estimate of 10.8 million tons, which is at the level of European production in 1935 but considerably lower than production in 1937, has been made because the loss in mill capacity sustained during the war will probably not be restored for some time, and because the demand for lumber, which undoubtedly will be large, will compete with pulp for wood and labor in the postwar period.

THE FIGURES SHOWN BELOW OFFER A COMPARISON WITH THESE FORECASTS FOR TWO YEARS AFTER V-E DAY:

1947—?—Total U. S. Imports, 1,500,000 tons. From Europe, 500,000 tons. From Canada and Newfoundland, 1,000,000 tons.

Europe's total production for the second year after V-E Day, however, is forecast at 10,800,000 tons, that of the United States at 11,700,000 tons and Canada's at 6,000,000 tons. That would total 28,500-000 tons as compared with highest figure shown below of 25,655,000 tons in 1937.

WOOD PULP: Production in Selected Countries, 1929-39

(Thousands of Short Tons)

Country	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939 a/
Europe:											
Great Britain--	129	113	108	102	111	121	125	129	222	218	180
Sweden---------	2,800	2,680	2,423	2,201	2,824	3,163	3,278	3,506	3,884	3,374	3,457
Norway---------	1,056	1,027	608	992	942	1,083	949	1,094	1,208	992	990
Finland--------	1,072	1,186	1,195	1,392	1,520	1,728	1,904	2,178	2,415	2,444	1,780
Germany--------	2,296	2,249	1,944	1,843	1,912	2,178	2,315	2,540	2,737	2,715	2,800
Russia---------	305	423	451	481	533	579	651	773	924	1,070	950
Austria--------	362	349	344	312	342	351	370	371	456	400	380
France---------	165	183	180	186	252	320	353	375	393	375	400
Czechoslovakia-	357	360	360	239	288	319	310	348	379	350	350
Italy----------	133	139	149	152	138	124	146	153	208	229	200
Poland---------	120	119	107	103	109	135	136	168	191	214	170
Netherlands----	101	101	100	106	108	111	116	117	133	115	120
Estonia--------	75	81	91	84	86	92	93	93	95	100	100
Switzerland----	83	85	74	73	77	85	80	79	99	77	100
Rumania--------	42	47	41	35	38	51	55	60	62	66	65
Lithuania b/---	64	61	43	40	55	64	62	68	76	64	70
Latvia---------	23	27	7	17	24	25	29	36	44	49	40
Yugoslavia-----	---	---	---	---	---	8	9	10	37	30	35
Hungary--------	---	4	4	4	5	6	7	6	7	11	7
Turkey---------	---	---	---	---	---	---	---	1	8	9	9
Denmark--------	---	4	4	4	6	7	7	6	7	7	7
Bulgaria-------	---	---	---	---	---	---	---	2	3	6	4
Total above--	9,183	9,238	8,233	8,416	9,370	10,550	10,995	12,113	13,588	12,915	12,214
Canada---------	4,021	3,619	3,168	2,663	2,980	3,636	3,868	4,485	5,141	3,668	4,166
Newfoundland---	231	288	281	263	266	306	331	322	353	267	350
United States--	4,863	4,630	4,409	3,760	4,276	4,436	4,926	5,695	6,573	5,934	6,993
TOTAL----------	18,298	17,775	16,091	15,102	16,892	18,928	20,120	22,615	25,655	22,784	23,723

a/ Estimated except for Canada, United States, Finland and Sweden.
b/ Estimated
Source: 1929-1938 United States Pulp Producer's Association, Wood Pulp Statistics, July 1944.

WOOD PULP: EXPORTS FROM FINLAND, NORWAY AND SWEDEN, 1935 AND 1937

(Tons of 2,000 Lbs.)

DESTINATION	FINLAND				NORWAY				SWEDEN			
	1935		1937		1935		1937		1935		1937	
	Tons	%	Tons	%	Tons	%	Tons	%	Tons	%	Tons	%
UNITED STATES----------	287,069	21.5	288,926	17.8	94,232	16.6	92,400	12.8	895,285	38.6	1,084,634	38.6
SOUTH AMERICA---------- a/	16,505	1.2	56,743	3.5	6,674	1.2	20,667	2.8	58,981	2.5	93,325	3.3
JAPAN------------------	32,043	2.4	41,446	2.6	48,738	8.6	57,626	8.0	55,022	2.4	123,068	4.4
EUROPEAN COUNTRIES-----	999,193	74.7	1,218,432	75.2	406,952	71.7	544,622	75.3	1,228,640	53.0	1,410,845	50.1
Great Britain----------	657,015	49.1	819,972	50.6	289,642	51.0	351,902	48.6	537,772	23.2	650,242	23.1
France-----------------	105,679	7.9	181,779	11.2	32,646	5.8	87,265	12.1	234,826	10.1	271,057	9.6
Germany----------------	39,575	3.0	42,739	2.6	14,149	2.5	12,385	1.7	58,049	2.5	107,188	3.8
Belgium----------------	30,973	2.3	30,778	1.9	22,878	4.0	32,171	4.5	73,846	3.2	86,656	3.1
Italy------------------	52,170	3.9	56,163	3.5	8,062	1.4	12,774	1.8	113,037	4.9	106,785	3.8
Spain------------------	17,968	1.4	9,168	0.6	9,343	1.6	2,039	0.3	93,442	4.0	26,213	0.9
Netherlands------------	13,728	1.0	30,632	1.9	20,157	3.6	27,071	3.7	44,048	1.9	65,143	2.3
All Other European Countries	82,085	6.1	47,201	2.9	10,075	1.8	19,015	2.6	73,620	3.2	97,561	3.5
ALL OTHER COUNTRIES	3,071	0.2	14,750	0.9	11,168	1.9	8,201	1.1	80,120	3.5	101,744	3.6
TOTAL----------	1,337,881	100.0	1,620,296	100.0	567,764	100.0	723,516	100.0	2,318,048	100.0	2,813,616	100.0

a/ Includes all American countries except United States.

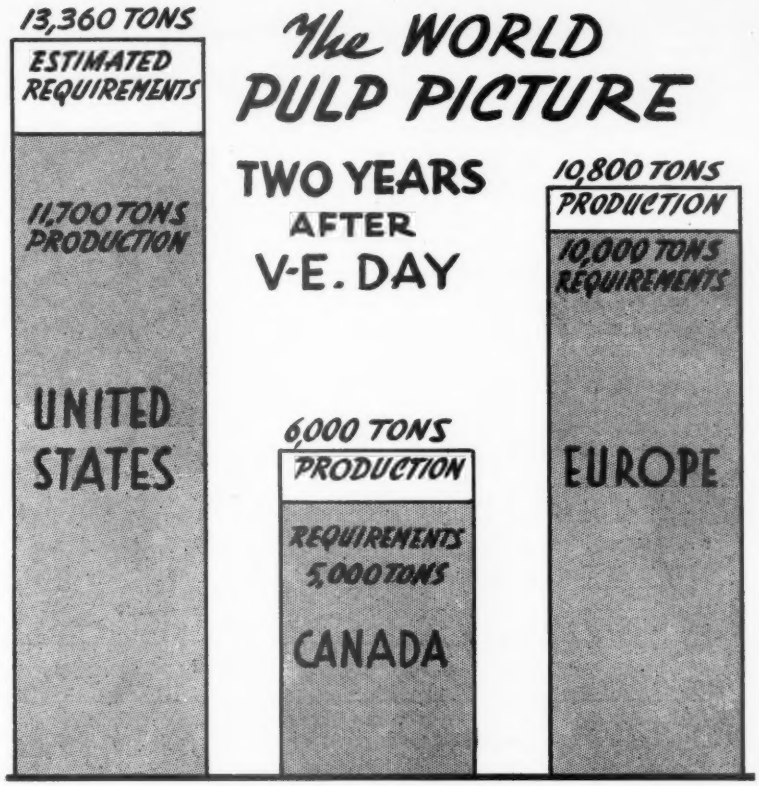
SOURCE: WORLD WOOD PULP STATISTICS
UNITED STATES PULP PRODUCER'S ASSOCIATION, 1937 and 1938.

lumber during the next six years at least, may go directly to the U.S.S.R. in accordance with the provisions of the treaty. Russia undoubtedly will have an important need for these materials, particularly during the post-war period when reconversion and rehabilitation of much of the country will be in progress.[3]

United States and Canadian production of pulp increased almost steadily during the period 1937 through 1942. Output in the United States totalled 6.6 million tons in 1937, declined slightly in 1938, and rose therefater to a peak of 10.8 million tons in 1942. Because of the shortage primarily of wood and labor in 1943, pulp production declined to 9.6 million tons, and in 1944 is estimated at 10.1 million tons.

Canadian production reached its

[3]Russia's position in the postwar picture is an unknown factor and probably will remain so for some time after the war. Its forest resources are tremendous, but whether they can be exploited economically is another matter. A large part of Russia's forests are comparatively inaccessible both from the standpoint of geographical location and transportation facilities. Availability of these wood resources is also adversely affected by weather conditions a considerable part of the year. Whether Russia will continue to obtain part of its requirements from Finland or whether it will exploit its own wood resources will have an important bearing on the international trade in pulp in subsequent years.



WOOD PULP: Imports by Principal European Countries, 1935 and 1937.

(Tons of 2,000 pounds)

Country	1935				1937			
	Total Imports	Imports from non-European Countries	Imports from European Countries	Imports from non-specified Countries	Total Imports	Imports from non-European Countries	Imports from European Countries	Imports from non-specified Countries
Imported into:								
Great Britain	1,611,992	26,465	1,566,739	18,788	2,011,042	24,351	1,856,870	129,821
France	535,938	14,926	513,161	7,851	730,387	16,704	710,487	3,196
Italy	370,286	---	276,003	94,283	276,324	5,985	266,312	4,027
Germany	158,149	693	155,821	1,635	203,219	855	202,202	162
Belgium	170,678	11,020	155,381	4,277	191,895	12,869	165,252	13,774
Netherlands	126,711	6,050	117,448	3,213	122,751	1,302	118,833	2,616
Denmark	46,647	---	39,689	6,958	54,650	---	45,159	9,491
Hungary	28,951	---	---	28,951	46,385	---	---	46,385
Spain	137,988	---	133,771	4,217	40,000	---	40,000	---
Greece	14,325	---	14,270	55	26,523	---	26,413	110
Poland	9,686	---	9,686	---	25,814	---	25,814	---
Switzerland	18,643	---	---	18,643	23,095	---	---	23,095
Yugoslavia	16,808	---	16,808	---	24,000	---	24,000	---
Norway	25,650	---	---	25,650	20,625	---	---	20,625
Sweden	6,251	---	---	6,251	12,477	---	---	12,477
Bulgaria	7,429	---	7,038	391	11,956	---	11,738	218
Czechoslovakia	5,280	---	---	5,280	9,883	---	---	9,883
Austria	9,526	---	9,526	---	4,470	---	4,470	---
Turkey	---	---	---	---	5,126	---	3,638	1,488
Estonia	3,313	---	---	3,313	3,302	---	---	3,302
U.S.S.R.(Russia)	5,348	---	---	5,348	---	---	---	---
Rumania	1,525	---	---	1,525	---	---	---	---
Latvia	1,215	---	---	1,215	997	---	---	997
Lithuania	1,213	---	---	1,213	1,290	---	---	1,290
TOTAL	3,313,552	59,154	3,015,341	239,057	3,846,211	62,066	3,501,188	282,957

Source. United States Pulp Producer's Association, World Wood Pulp Statistics, 1937 and 1938.

WOOD PULP: Exports by Principal European Countries, 1935 and 1937

(Tons of 2,000 pounds)

Country	1935				1937			
	Total Exports	Exports to non-European Countries	Exports to European Countries	Exports to non-specified Countries	Total Exports	Exports to non-European Countries	Exports to European Countries	Exports to non-specified Countries
Exports from:								
Sweden	2,318,048	1,089,385	1,228,640	23	2,813,616	1,402,771	1,410,845	---
Finland	1,337,881	338,688	999,193	---	1,620,296	401,864	1,218,432	---
Norway	567,764	160,812	406,952	---	723,516	178,894	544,622	---
Austria	170,674	1,583	164,076	5,015	205,296	16,004	189,292	---
Germany	326,570	114,974	205,048	6,548	183,256	85,756	95,424	2,076
Czechoslovakia	100,839	37,320	61,720	1,799	149,767	54,181	95,586	---
Estonia	87,689	14,676	69,302	3,711	75,724	19,642	55,265	817
Lithuania	57,528	13,280	44,113	135	75,641	20,235	54,520	886
Belgium	19,607	---	19,489	118	26,300	---	25,739	561
Yugoslavia	11	---	11	---	9,000	---	9,000	---
Latvia	2,935	1,171	1,764	---	8,551	3,931	4,620	---
Rumania	9,340	---	---	9,340	8,000	---	---	8,000
Great Britain	4,032	---	---	4,032	8,000	---	---	8,000
Switzerland	2,917	---	---	2,917	7,881	---	---	7,881
France	2,725	---	---	2,725	4,381	---	---	4,381
Poland	4,363	---	---	4,363	2,735	2,735	---	---
Netherlands	2,489	---	2,489	---	2,125	---	2,125	---
TOTAL	5,015,412	1,771,889	3,202,797	40,726	5,924,085	2,186,013	3,705,470	32,602

Source: World Wood Pulp Statistics, United States Pulp Producer's Association, 1937 and 1938.

WOOD PULP: United States Imports, by Country and Grade, 1935-39

(Tons of 2,000 pounds)

Year	Total Imports	Sweden	Finland	Norway	Germany	Other European	Newfoundland and Canada
Total All Grades:							
1935	1,933,249	898,877	266,492	93,308	80,255	53,239	541,078
1936	2,277,500	1,014,809	311,009	125,256	74,663	80,801	670,962
1937	2,394,605	1,130,075	285,994	102,978	69,060	94,260	712,238
1938	1,710,393	807,129	258,908	70,365	37,968	68,700	467,323
1939	2,026,441	873,359	336,618	95,604	21,142	61,765	637,953
Bleached Sulphite:							
1935	429,424	69,237	29,550	52,407	30,231	22,226	225,773
1936	512,168	67,309	31,131	70,950	34,792	26,924	281,062
1937	511,961	62,100	47,433	55,614	35,996	24,314	286,504
1938	337,659	44,822	53,201	52,589	5,051	14,972	167,024
1939	474,109	64,855	70,611	65,516	8,702	12,011	252,414
Unbleached Sulphite.							
1935	693,026	377,320	146,166	16,539	50,024	27,948	75,029
1936	786,720	425,753	157,324	25,391	39,871	50,109	88,272
1937	919,680	539,488	123,112	28,479	32,740	67,326	128,535
1938	686,252	392,211	117,167	4,892	32,917	52,560	86,505
1939	661,193	374,003	115,844	14,145	12,440	34,617	110,144
Unbleached Sulphate:							
1935	526,684	400,654	62,173	17,328	---	2,980	43,549
1936	635,722	457,912	87,415	23,324	---	3,768	63,303
1937	622,390	454,049	88,764	17,798	324	2,614	58,841
1938	427,765	297,305	69,051	12,060	---	1,168	48,181
1939	546,167	335,550	121,819	15,545	---	15,137	58,116
All Other Grades:							
1935	284,115	51,666	28,603	7,034	---	85	196,727
1936	342,890	63,835	35,139	5,591	---	---	238,325
1937	340,574	74,438	26,685	1,087	---	6	238,358
1938	258,717	72,791	19,489	824	---	---	165,613
1939	344,972	98,951	28,344	398	---	---	217,279

Source: United States Bureau of Foreign & Domestic Commerce presented in Wood Pulp Statistics, United States Pulp Producers Association, July 1944, pp. 44 and 45.

high point in 1941, when output totalled 5.7 million tons. Since the production has eased off slightly because of a shortage in manpower in the pulpwood industry. Production 1943 amounted to 5.3 million tons and this quantity should be equalled, if not exceeded, in 1944. The total for the United States and Canada in 1942 amounted to 16.4 million tons, or 40% above the combined production of these two countries in 1937.

Despite the relatively high levels maintained in these two countries in recent years, production is still not sufficient to meet the estimated demands in the post-war period. The pulp required to produce a projected 20 million tons of paper in the United States, based on the 1st quarter 1944 pulp usage, amounts to about 12,860,000 tons.* Assuming that domestic production can be increased to 11.7 million tons during the second year following V-E, and that imports from Canada remain at a one-million-ton-level, a minimum of 660,000 tons would be needed from European sources to augment domestic and Canadian pulp in supplying United States needs. In the event these quantities are not forthcoming from Canada or Europe, then pulp from domestic inventories will have to be used to meet the deficit required to produce the projected paper and paperboard tonnage.

*Pulp requirements as stated here are based on the first quarter 1944 pulp to paper ratios. Due to lowering of basic weights and pulp furnish from the pre-war levels, however, the estimated pulp requirements of 12,860,000 tons may be understated by as much as five to ten per cent of the quantity actually needed to produce the paper and paperboard projected in the postwar period when basic weights and furnish will have been reestablished.

Predicated on the foregoing assumptions, the projected pulp supply-demand situation in North America and Europe is summarized in the table below. For comparative purposes data for 1937 are also shown.

In projecting an estimated domestic production of pulp at 11.7 million tons it has been assumed that sufficient pulpwood will be forthcoming, both from domestic and Canadian sources, to meet the level of output which is estimated for pulp. If this projected production is to be realized, however, it will be necessary to increase substantially receipts of wood over the present level which is currently at the rate of 17,400,000 cords per year. The previous high record was in 1942, when wood receipts totalled 16,700,000 cords for the year. The production of 11.7 million tons of pulp would require about 19.3 million cords of wood. In meeting future pulpwood needs it is believed domestic mills will use considerably larger quantities of hardwood, as well as species of wood which have not been in general use heretofore. Moreover, it will be necessary to utilize larger quantities of wood waste and at the same time intensify research in developing improved yields of pulp, so that sufficient fibre will be available to meet the projected paper demands.

WOOD PULP: Production and Apparent Consumption, 1937 and Projected Production and Consumption

(Thousands of Short tons)

Country	1937 Production	1937 Consumption	Projected Production & Requirements for second year following V-E* Estimated Production	Estimated Requirements
European countries	13,600	11,521	10,800	†10,000
Canada	5,100	4,292	6,000	5,000
United States	6,600	8,645	11,700	‡13,360
Total	25,300	24,458	28,500	28,360

*The second year following V-E (victory in Europe) refers to the second calendar year following the year in which the European phase of the war ends. For example, if V-E occurs in 1945, the "second year following V-E" would be 1947.

†Requirements for consumption and inventory.

‡Consumption of pulp in the manufacture of paper and paperboard is estimated at 12,860,000 tons; pulp for non-paper consumption is estimated at 500,000 tons.

Source: Production and Consumption data for 1937 supplied by the United States Pulp Producers Association, Wood Pulp Statistics, 1944.

WOOD PULP: United States Exports to Principal Countries, 1935-39

(Tons of 2,000 pounds)

Year	Total Exports	Belgium	France	United Kingdom	Other European	Canada	Japan	All Other Countries
1935	171,710	7,153	7,238	2,877	a/	2,597	135,686	16,159
1936	193,485	8,151	5,442	4,337	1,023	1,490	164,705	8,337
1937	322,544	14,185	17,415	30,793	3,950	23,798	215,681	16,722
1938	140,484	5,197	5,026	31,657	4,488	17,450	61,533	15,133
1939	139,504	8,459	8,504	32,587	1,629	21,315	31,251	35,759

a/ Included in "All Other Countries"

Source: United States Bureau of Foreign and Domestic Commerce presented in Wood Pulp Statistics, United States Pulp Producer's Association, July 1944, pp. 67.

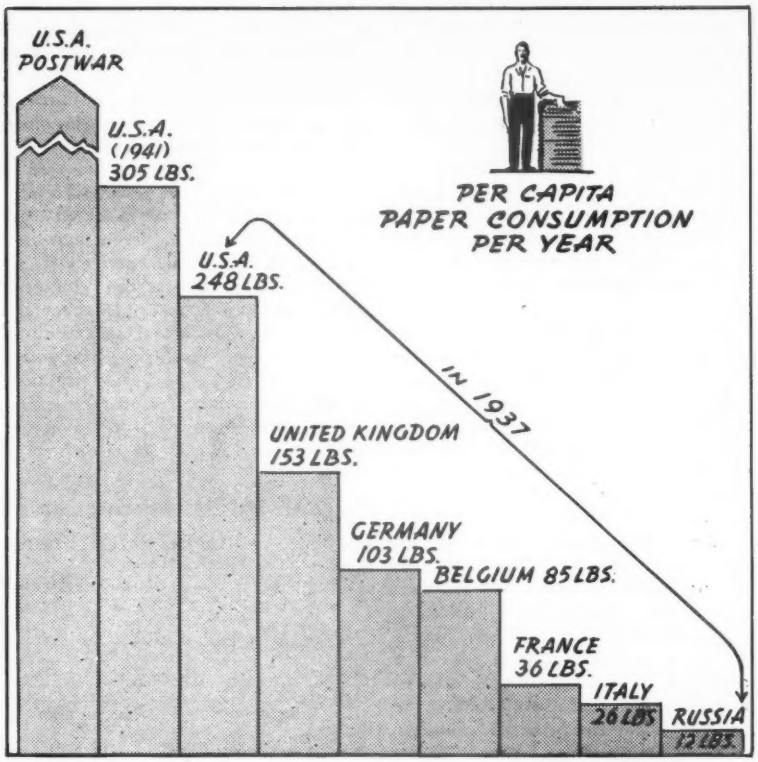
Paper Demand

● The years immediately preceding the outbreak of the war witnessed a continuation of the upward trend in the production of paper and paperboard which had begun in the twenties. United States' production increased from 10.5 million tons in 1935 to 13.5 million tons in 1939. Canadian production, consisting largely of newsprint, rose from 3.3 million tons in 1935 to 4.3 million tons in 1940. Production in the United Kingdom and in the Scandinavian countries increased up to 1937, but the rate of increase in these countries was proportionately lower than in the United States where a rapidly expanding demand provided the initiative for greater production.[1]

Paper production in the United States in the 1935-39 period was supplying civilian needs exclusively —war demands were not to become an important factor in the supply picture until 1942. With a sufficient supply of pulp and labor still available in 1942, domestic mills produced 17.8 million tons of paper and paperboard. This record output was accounted for in part by increased demands for paper which accompanied the general rise in industrial activity in this country, and in part by the fact that producers and consumers were anticipating a shortage of paper as a result of the shutting off of Scandinavian pulp exports to the United States. Production since 1941 has leveled off at about 17 million tons annually and output for the current year (1944) is estimated at 17.2 million tons. The fact that paper production has been maintained at this level during the past few years, in spite of the difficulties encountered in obtaining fibre and labor, does not mean that there has been a sufficient supply to meet the over-all demand. Actually, since the latter part of 1943, a shortage in the supply of papers for business, commercial, and other civilian uses has been developing, and a critical shortage has narrowly been averted in many strategic grades only through the combined efforts of industry and government in meeting these demands.

Since 1942 the war uses for paper have grown steadily. In the early stages of the war, paper was required as a substitute for scarce materials but as our war effort increased, the use of paper in its own right grew rapidly. Research has aided tremendously in developing special

[1]The almost steady rise in the demand for paper and paperboard in the U. S. is reflected in per capita consumption which increased from 112 pounds in 1914 to 248 in 1937 and 305 in 1941. After the war the per capita consumption is expected to be somewhat above the 1941 level. (An accompanying chart shows comparisons of per capita consumption (between the U. S. and other countries.)



The above chart, based on September 1944 Statistical Summary of the American Paper and Pulp Assn., offers an opportunity to compare paper usages in different countries—and to speculate on the effect of slight or substantial increases.

PAPER AND PAPERBOARD: Production in Selected European Countries,

(Tons of 2,000 pounds)

Country	Production 1937
Austria	346,386
Belgium	263,670
Czechoslovakia	349,429
Denmark	84,667
Finland	834,368
France	a/ 936,900
Germany	3,933,238
Italy	562,791
Netherlands	268,708
Norway	512,799
Russia	1,007,503
Sweden	1,172,497
United Kingdom	b/ 2,575,000
Total	12,847,956

a/ 1929 production, latest available data. Production is believed to have increased considerably since then.

b/ 1935 production, latest available data.

Source: Bureau of Foreign and Domestic Commerce, World Paper Consumption, 1927-38.

UNITED STATES PAPER PRODUCTION, IMPORTS, EXPORTS, AND CONSUMPTION

(Quantities in Tons of 2,000 Pounds)

TOTAL—ALL GRADES

Year	Production	Imports	Exports	Consumption Tons	Consumption Lbs. Capita
1899	2,167,593	.....	.....	2,167,593	57.9
1904	3,106,696	.....	77,704	3,028,992	73.3
1909	4,121,495	55,962	74,764	4,102,693	90.5
1914	5,152,705	349,278	106,713	5,395,270	112.4
1919	5,966,076	707,548	420,540	6,253,084	121.6
1924	7,929,985	1,500,433	149,541	9,280,877	168.1
1925	9,001,742	1,567,121	152,351	10,416,512	184.5
1926	9,794,086	1,973,451	183,130	11,584,407	198.8
1927	10,002,070	2,107,344	184,226	11,925,188	201.8
1928	10,403,338	2,266,828	218,730	1,2451,436	209.7
1929	11,140,235	2,533,603	262,383	13,411,455	220.7
1930	10,169,140	2,365,272	215,811	12,318,601	200.7
1931	9,381,840	2,136,079	170,891	11,347,028	182.8
1932	7,997,872	1,848,016	119,292	9,726,596	155.6
1933	9,190,017	1,852,420	126,854	10,915,583	173.6
1934	9,186,598	2,265,281	163,199	11,288,680	178.3
1935	10,479,095	2,456,998	178,370	12,757,723	200.1
1936	11,975,552	2,846,089	173,829	14,647,812	228.1
1937	12,837,003	3,416,418	224,437	16,028,984	248.2
1938	11,380,814	2,344,075	198,982	13,525,907	208.0
1939	13,509,642	2,690,534	253,669	15,946,507	242.2
1940	14,483,709	2,817,615	561,575	16,739,749	254.2
1941 (a)	17,762,365	3,078,769	473,448	20,367,686	305.8
1942 (a)	17,083,862	3,007,572	351,111	19,740,323	293.2
1943 (a)	17,035,688	2,719,955	327,605	19,428,038	284.7
1944 (estimate)	17,244,000	.....	.....	.....	.....
Two Years After V-E Day	20,070,000	.....	.....	.....	.....

(a) Revised by Census as per "Facts for Industry," March 4, 1944.
Source: Production data from Dept. of Commerce, Bureau of Census. Imports and Exports data from Bureau of Foreign and Domestic Commerce interpreted by the American Pulp and Paper Association from 1899 through 1935 and by the Paper Division WPB from 1936 on.
Consumption is interpreted as production plus imports minus exports.

grades of paper and paperboard for military uses and credit for this work goes largely to industry and the technical and scientific groups associated closely with the paper industry. Their work has contributed immensely to the part paper has served in the war effort.

Among the most important papers developed are waterproof solid fibreboard which is used in the production of "V" boxes and shipping containers, wet-strength papers, laminted papers, particularly moisture and vapor barrier material with paper base, special types of paper for structural purposes, paper-base-plastics, and an imposing list of other industrial papers—all of which have made important contributions to our war effort and most of which will find wide commercial application in our post-war economy. It is in certain fields, particularly the packaging and container, that the paper industry will encounter its most direct competition from other materials such as wood, metal and glass, and success or failure in meeting this competition will depend in large measure upon the paper industry's aggressiveness in marketing and improving its products, and exploiting to the fullest extent the gains it has already made in these fields. It is a direct challenge to the industry.

In projecting estimates of postwar demands for paper, it has been necessary to take into consideration such factors as the level of our national income and industrial activity in the postwar years, the availability of labor, the supply of raw material, mill capacity, the probable size of export demands for paper, and the status of paper in competition with other materials. These and other factors have been analyzed, and considering the wide range of possibilities which exist between conditions of war and peace economy it is reasonably safe to assume that a high level of postwar production will be accomplished. The traditional demand for paper in peacetime has followed closely the trend of the level of our national income and it is not unreasonable to assume that paper demands after the war will again be correlated very closely to this measure of our national economy. If it is assumed national income will be maintained at 125 billion dollars or slightly higher annually, and that the supply of pulp will be sufficient to meet the demands for domestic mills, then there is good reason to believe that paper production will rise substantially above the present level and possibly exceed the 20-million-ton level projected in this report.

In forecasting this level of production in the postwar years, the largest single increase over previous production levels is estimated to come in coarse papers, which are scheduled for an estimated half-million-ton per year increase over output in 1941. Important increases are also predicted for the book, fine, and the tissue group papers and for paperboard, particularly container and folding boxboard. In only one segment of the paper industry, newsprint, has a decline in production below the 1941 level been predicted.

Newsprint

For a considerable period the domestic output of newsprint has been on the downward trend and although the possibility exists that a number of newsprint mills may be built in the South and West within the next few years, it is thought that production will not rise above

850,000 tons annually. A number of the Northern mills formerly producing newsprint have switched to groundwood specialties, and this trend may continue to some extent.

Groundwood Papers

The production of groundwood printing and specialty papers increased from 540,000 tons in 1939 to 643,000 tons in 1941, and it is anticipated that virtually all papers in this group will continue their upward trend as soon as sufficient pulp again becomes available. Production of groundwood printing papers undoubtedly will be influenced favorably by the development of bleaching processes in the manufacture of groundwood pulp which should tend to lower unit costs in white papers and lead to a greater demand for these grades. The anticipated increase in advertising of consumer goods will substantially raise the demand for groundwood papers. Advertising must sell literally thousands of household items, automobiles, airplanes, new construction materials and new products of all types. The export market, moreover, will undoubtedly expand for rotogravure, business machine papers, tablet, and general groundwood printing papers for some time after the war.

Book Papers

The domestic demand for book papers should improve and the export market, which has been small, should rise. In addition to the upward trend in the book and magazine fields, the demand for book papers should also increase substantially because of increased advertising similar to or even greater than in the groundwood field.

Fine Papers

In the fine paper field, the market for rag writing papers may be slow in developing while chemical pulp writing papers should continue to improve their position in the competitive field. The demand for other grades in the fine paper segment should increase substantially, although the market for several specielty items, such as wet-strength map papers, will undoubtedly decline. Wet strength papers, other than map, however, will undoubtedly find many new outlets. Cigarette papers should continue strong as will the production of other thin papers. In total, the domestic demand for writing, bristols, and virtually all types of business papers is expected to increase substantially above the present level. Inventories are now low and the need for business papers during the period of industrial reconversion is certain to be great.

PAPER AND PAPERBOARD: Annual rate of United States Production Based on Highest Quarterly Production Attained in the Last Six Months of 1941 and First Six Months of 1942.

(Tons of 2,000 lbs.)

Grade	Highest Quarterly Production, 1941-1942		Annual Rate Based on Highest Quarterly Production 1941-1942 *
	Period	Production	
Total Paper and Paperboard	--	4,941,709	19,766,836
Total Paper	--	2,565,902	10,263,608
Newsprint	4th Qt. 1941	255,354	1,021,416
Groundwood	1st Qt. 1942	174,049	696,196
Book	1st Qt. 1942	533,449	2,133,796
Fine	1st Qt. 1942	280,630	1,122,520
Coarse	1st Qt. 1942	647,446	2,589,784
Shipping Sack	2nd Qt. 1942	78,443	313,772
Special Industrial	1st Qt. 1942	54,940	219,760
Sanitary	2nd Qt. 1942	212,387	849,548
Tissue	4th Qt. 1941	48,075	192,300
Absorbent	4th Qt. 1941	36,422	145,688
Building Paper	1st Qt. 1942	244,707	978,828
Total Paperboard	--	2,375,807	9,503,228
Container Board	1st Qt. 1942	1,085,079	4,340,316
Folding Boxboard	1st Qt. 1942	488,841	1,955,364
Set-up Boxboard	1st Qt. 1942	318,031	1,272,124
Cardboard	4th Qt. 1941	19,629	78,516
Miscellaneous Board	4th Qt. 1941	209,715	838,860
Building Board	2nd Qt. 1942	254,512	1,018,048

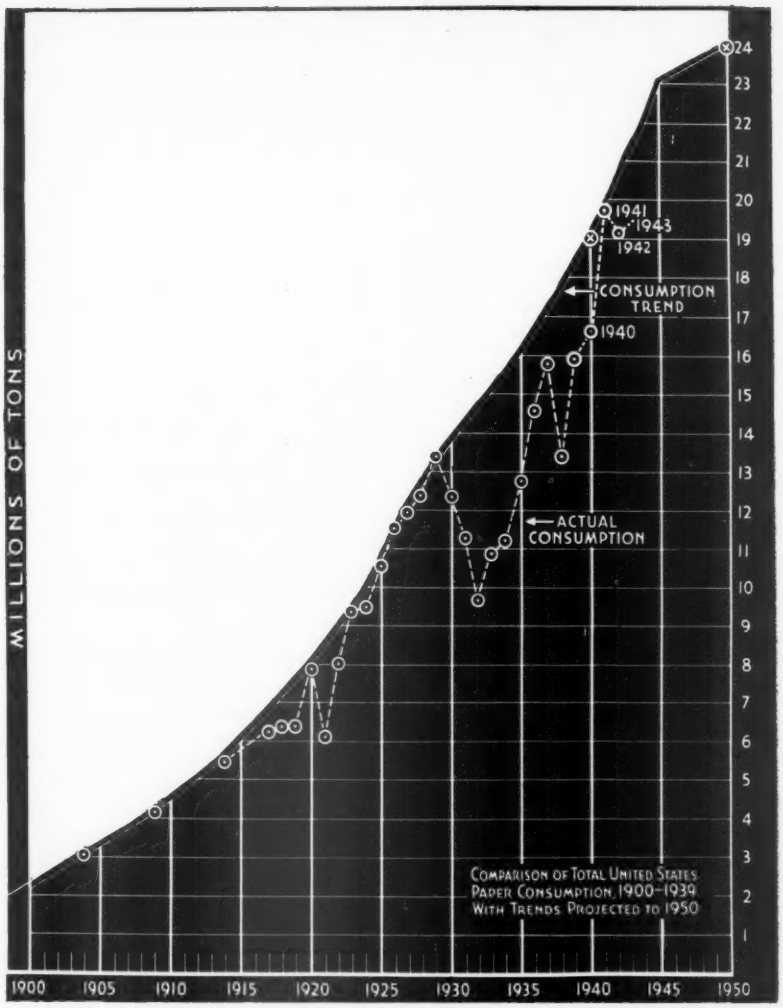
* It is recognized that the total rate attained by adding production during each highest quarter for the period under consideration may permit some duplication where shifts in production of paper or paperboard have taken place. It is felt, however, that such duplication is not of sufficient importance to make a significant change in the data shown.

Coarse Papers

In the coarse paper field, production of both kraft wrapping and grocery bag paper will increase substantially, inasmuch as these papers have been cut back to about 50% from their previous high level. Greaseproof, glassine, and vegetable parchment papers, as packaging media, have had a phenominal rise since 1929 and it is anticipated that this trend will continue for some time after the war. Greaseproof, for example, increased from 8,000 tons in 1929 to 27,000 tons in 1943. Glassine increased from 47,000 tons. in 1929 to 84,000 tons in 1943. This increase is reflected chiefly in the growing importance of packaging materials and the choice of these papers in a highly competitive market. Changes in methods of marketing, from unpackaged bulk to convenient sealed packages which guarantee a sanitary product, have been important factors in the increased use of these papers. Research in the field of adhesives has produced a heat-sealing process which definitely will widen the use of glassine and greaseproof papers. The process of laminating glassine or greaseproof to foils, kraft, or cloth, with waterproof adhesives, has been developed and perfected during the war and, while tonnage-wise this development to date has not been great, it is important to the industry in the future.

Shipping Sacks

The demand for shipping sack paper has risen substantially in recent years. This increase has been due in part to the need for shipping containers of all types in handling the accelerated movement of goods and materials, and in part to the fact that heavy paper shipping sacks have displaced to an important extent short supplies of wooden containers, metal drums, and burlap and textile bags for many purposes. The most important tonnage items utilizing paper shipping sacks include food and grain products, chemicals and fertilizer materials, and building materials such as plaster, lime, and cement. The gains which heavy paper sacks have made in recent years very probably will be maintained and even extended after the war inasmuch as requirements for materials for postwar housing and construction projects are expected to advance sharply. The production of shipping sack paper rose from 269,000 tons in 1941 to an estimated 393,000 tons in 1944. The estimated production of 400,000 tons of this paper in 1946, therefore, may be conservative.



IN APRIL, 1938, CHARLES W. BOYCE, THEN SECRETARY OF THE AMERICAN PAPER & PULP ASSN., MADE A PREDICTION ON THE BASIS OF TRENDS AT THAT TIME THAT U. S. PAPER CONSUMPTION WOULD REACH 23,000,000 TONS IN 1945 AND THEN TAPER OFF FROM ITS STEEP CLIMB TO 24,000,000 TONS IN 1950.

In the article on these pages Mr. Housley forecasts a market for 20,070,000 tons two years after V-E Day. Mr. Boyce—not knowing a war would interfere—figured 20,000,000 consumption in the U. S. would be reached by the middle of 1942. If it may be assumed that war has postponed attainment of that goal until 1947, it may then be reckoned on the same premise that Mr. Boyce's 23,000,000-ton consumption rate in the U. S. may be postponed until 1950. U. S. consumption in recent years has averaged about 2,500,000 tons greater than annual production.

The graph above compares Mr. Boyce's trend curve with actual consumption figures up to 1944, which is estimated at about the same rate as 1943. Mr. Boyce is now in the U. S. Dept. of Commerce Pulp & Paper Unit.

Industrial Papers

The principal items comprising the special industrial and absorbent paper segments of the industry are tag and file folder stock, tabulating card stock, cable paper, gasket paper and paperboard, vulcanizing fibre and resin impregnating stock. The extent to which production of these papers will be maintained or increased in the postwar period is difficult to ascertain but with the high industrial and commercial activity predicted, it appears that most industrial papers will increase substantially. In the absorbent paper group vulcanizing fibre stock, as well as resin impregnating paper stock, should increase as the de-

mand for these papers for laminating purposes develops. During the second quarter of the current year the combined production of special industrial and absorbent papers totaled nearly 87,000 tons which is at the rate of 348,000 tons per year. The projected production of these papers has been set at 300,000 tons.

Tissue

Demands for sanitary and tissue paper products have risen in reeent years and the per capita consumption of virtually all these papers, particularly facial tissue, toweling and napkin stock, toilet tissue, waxing, wrapping and twisting tissues have increased materially during the past decade. The growth in the use of facial tissue and other sanitary papers has become so great the full demands have not been satisfied during the past year and as restrictions are relaxed, the production of these items should be substantially larger. Also, the use of twisted and woven tissue papers in the manufacture of floor coverings and other products will undoubtedly increase. The projected level of production for both sanitary and tissue papers has been set at 1,100,000 tons which is about 12% above the previous high point of 982,000 tons in 1942.

Building Papers

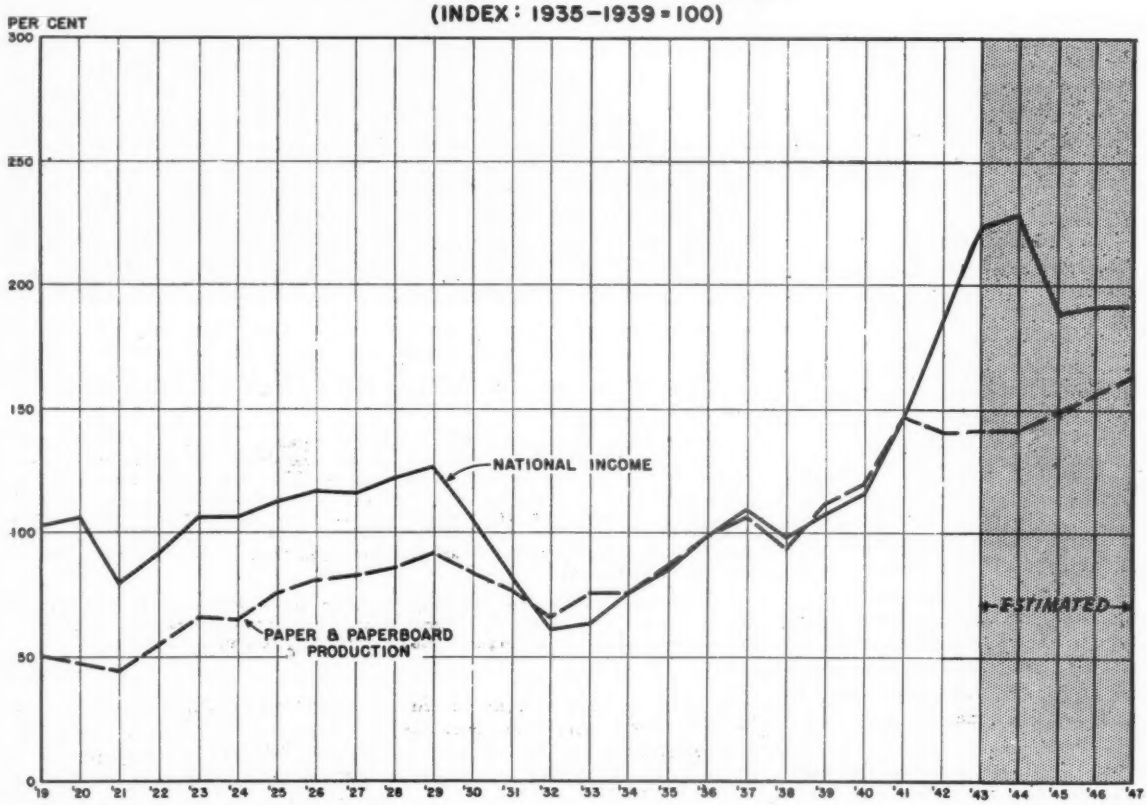
Production of building papers is projected at a one-million-ton-per year level in view of the anticipated demands for this grade of paper for construction purposes in the postwar period. This level of production is the same as that attained in 1942 though somewhat higher than output for 1943.

Containerboard

The outlook for paperboard is extremely bright. Container board and folding boxboard represent the principal tonnage items in this group and account for slightly more than two-thirds of the total production in the paperboard field. An important development in the container board production has been the manufacture of V-board, which is weatherproof and built to provide maximum strength and durability for over-seas shipments for the Army, Navy, Foreign Economic Administraion, and industry. This production has increased rapidly and although certain grades of V-board production will decline with the ending of hostilities, it is expected that the urgent demand for all types, standard containers, and selected grades of V-boxes, to supply the needs of industry and trade in the postwar period will more than offset any loss which may come about as a result of the decline in military requirements. The extent to which the container board and folding boxboard industries can retain the gains they have made in competition with other materials in the

PAPER & PAPERBOARD PRODUCTION COMPARED WITH TOTAL NATIONAL INCOME

(INDEX: 1935–1939 = 100)



SOURCE:
Paper Production – 1919-1943, Bureau of Census
National Income – 1919-1940, U S. Statistical Abstract
1941-1943, National Income Unit, Department of Commerce
'1944 Through 1947 – Estimated by Paper Division

This is how the Dept. of Commerce explains the charting of the National Income line above:
It is called a hypothetical projection in the darkened area, based upon mechanical operations—not forecasts. Empirical observation leads to belief that industry's output would tend to follow generally fluctuations in total business activity. This should be especially true of pulp and paper. A series on gross national product, devised by the National Income Unit of the Department of Commerce, was selected to reflect total activity. Gross national product is a term designed to count all final products and services produced by the economy at the prices these products command in the market.

shipping and packaging fields will have an important bearing on the level of paperboard production in the postwar period. Certain new uses of paperboard, such as substitutes for metal containers for grease and paint, for example, will probably decline as soon as restrictions on the use of metal for these purposes are relaxed. Folding boxboard will continue to find a large market in other items marketed in fibre containers.

Boxboard

Set-up boxbord production is expected to increase above present levels as soon as the necessity for material in other types of board is relieved. In 1941 the production of set-up boxboard reached an all-time high of 1,200,000 tons and this level of production has been projected for the postwar period. The outlook for building board and other "miscellaneous" board appears good in view of the fact that these boards will be in large demand in the postwar housing and construction programs.

Conclusions

● In projecting the postwar demand for paper and paperboard the following assumptions underlying conditions in that period have been made:

That there will be a high level of industrial activity in the immediate postwar years with an accompanying high level of national income, probably at a level of 125 billion dollars annually.

That sufficient labor will be released from the Armed Services and war industries to permit higher operations in the pulpwood, pulp, and paper mills.

That with adequate labor, larger quantities of pulpwood will be produced and thus permit a larger prodution of pulp, paper, and paperboard.

The the bulk of the Scandinavian pulp will be needed to supply European demands in the immediate postwar years and that United States imports of pulp from these countries will be much less than in the prewar years—probably not exceeding 500,000 tons annually in the first few years following the end of the war in Europe.

That production facilities in the pulp mills and paper mills will be increased sufficiently to meet the production level projected. In this connection there are already definite indications that industry will launch an important program of re-equipment as soon as war restrictions governing the purchase and installation of machinery and equipment are removed.

Based on the foregoing assumptions the projected level of production of paper and paperboard during the second year following V-E is shown below. With the projected production is also shown the estimated quantities of pulp required to produce this paper and paperboard.

The projected level of 20 million tons is 2.2 million tons above the peak production of 1941. However, if the highest quarterly production attained during the last half of 1941 or the first half of 1942 is projected to a yearly basis, an annual rate of production of 19,800,000 tons is attained, and this production rate is only slightly lower than the annual production estimated for the postwar period. While it is doubtful that this high rate of production in 1941-42 could have been maintained for any considerable period of time without important installations of new capacity, it is, nevertheless, significant that the rate reached during that period, when materials and labor were comparatively easy, reflected a new high demand for paper and paper products. In fact, it appears that the upward trend in paper and paperboard production which was interrupted by the war will be resumed as soon as adequate supplies of wood, equipment, and labor again become available. If industry is fully alert to the larger demands which almost certainly will develop after the war, there is every reason to believe production will reach or surpass the level indicated. The outlook ahead presents a challenge to the industry from a standpoint of board production and marketing ingenuity—this challenge can and must be met.

PAPER AND PAPERBOARD: Projected United States Production Second Year Following V-E* and Wood Pulp Requirements**

(Tons of 2,000 pounds)

TOTAL PAPER PRODUCTION

Grade of Paper and Paperboard	Projected Paper and Paperbrd. Prod. 2nd year following V-E.	Est. Total Wood Pulp Requirements.	GRADES OF WOOD PULP							
			Bleached Sulphite.	Unbleached Sulphite.	Bleached Sulphate.	Semi-Bleached Sulphate.	Unbleached Sulphate.	Soda	Groundwood	Miscellaneous
Total paper & paperbd.	20,070,000	12,860,300	1,971,400	1,531,000	910,900	206,600	4,475,000	630,800	2,097,500	1,037,100
Total paper	10,790,000	9,059,500	1,885,700	1,339,400	758,000	175,500	2,271,000	602,800	1,746,300	280,600
Newsprint	850,000	890,000	.....	111,300	.....	11,500	.....	.....	767,200	.....
Grdwd., book & fine	4,300,000	3,311,800	1,236,100	362,100	441,900	14,500	26,900	554,700	669,700	5,900
Coarse & ship. sack	3,240,000	3,297,800	333,800	337,600	244,000	110,500	2,142,100	20,200	40,400	69,200
Special ind. & abosrb.	300,000	256,700	34,500	70,900	28,600	37,900	51,300	12,000	16,000	5,500
Sanitary & tissue	1,100,000	1,109,200	281,100	455,000	43,500	900	44,900	15,900	253,000	14,900
Building papers	1,000,000	194,000	200	2,500	200	200	5,800	.....	.....	185,100
Total paperboard	9,280,000	3,800,800	85,700	191,600	152,700	31,100	2,204,008	28,000	351,200	756,500
Container board	4,300,000	2,420,900	.....	7,200	.....	.....	2,098,900	.....	77,500	237,300
Folding & setup bxbd.	3,300,000	596,100	80,400	157,200	144,300	28,000	45,500	21,200	102,100	17,400
Building board	1,000,000	602,000	.....	6,000	.....	.....	.....	.....	106,000	490,000
Miscellaneous (including cardboard)	680,000	181,800	5,300	21,200	8,400	3,100	59,600	6,800	65,600	11,800

*The second year following V-E (victory in Europe) refers to the second calendar year following the year in which the European phase of the war ends. For example, if V-E occurs in 1945, the "second year following V-E" would be 1947.

**Pulp requirements as shown are based on first quarter 1944 pulp to paper ratios. Due to the lowering of basic weights and furnish from the pre-war levels, however, the pulp requirements of 12,860,300 tons may be understated by five to ten per cent of the quantity actually needed to produce the paper and paperboard projected in this postwar period.

Comments on the Housley Report and Other Opinions

A number of responsible and well known leaders and authorities in various industry associations were invited by PULP & PAPER INDUSTRY to comment upon the Housley report. Their replies are respectfully presented below:

By D. K. Brown

President, American Paper & Pulp Assn., and President, Neenah Paper Co.

Paper and paper products are going to be an important element in the rehabilitation of government and industry, as well as for re-establishment in war-torn countries.

In order to fulfill its obligations to meet both domestic and foreign needs the pulp and paper industry will be expected to continue producing at high levels. Successful achievements thereof will depend largely on a constant flow of pulpwood and waste paper, and this means that all efforts of the past two years to obtain increased collection and production thereof must be maintained. Any let-up in directing labor to pulpwood cutting and hauling to mills, any relaxation in granting truck needs for logging, or any failure to supply tires for trucks can cause a reaction which would immediately be felt in a downward trend of paper and paperboard output. If such an event should occur it would take months to regain the momentum necessary to maintain a steady flow thereof to meet the demands for our products.

Further, irrespective of our personal desires, it would appear that we will have to accept the premise that world trade is in the national interest to the extent that it results in an accession of the national wealth, as well as the thesis that the domestic economy, if it is to enjoy the benefit of world trade, must find ways and means of absorbing some percentage of foreign goods in payment for export commodities.

The industry can be proud of its contribution to the war effort, no small part of which is due to the splendid cooperation by the press, magazines, and radio, which has created a public consciousness and appreciation of the value of our industry both to the war effort and to peace-time economy.

To sum up, all signs point toward a continuing large demand for the products of our industry in the post-war period.

D. K. BROWN—". . . all signs point to a continuing large demand for the products of our industry. . ."

COLA G. PARKER: ". . . I have no doubts we will see peaks of demand and production which we have only dreamed about . . ."

By Cola G. Parker

First Vice President, American Paper and Pulp Assn., and President Kimberly-Clark Corp.

It seems to me inherent in Mr. Housley's report that it is predicated on a realization that pulp, paper and paperboard are vital elements in any civilization.

If one is optimistic, as I am, regarding our future, I do not see how anyone can disagree with the basic and broad conclusions stated.

Perhaps every company will have different views as to the precise character and volume of demand for any given product in our industry. Overall, hovewer, I have no doubts that we will see peaks of demand and production which we have only dreamed about.

I should not be suprised if in the not distant future Mr. Housley's estimate of overall production would be exceeded.

By Paul A. Mahony

President, Groundwood Paper Manufacturers Assn. (International Paper Co.)

We, in the groundwood paper manufacturing business, anticipate quite an increased demand for these papers in the postwar years. We expect this demand to continue for some several years after the cessation of hostilities.

Taking the year 1941 as a base, primarily because this was the last pre-war year and a year in which war demands had no bearing on our activities, we find that the volume in this industry increased 50% between 1935 and 1941. If we break down this increase into broad segments, we find that by far the largest part of this increased production occurred in printing papers. This is a natural development.

Manufacturers of groundwood papers have known for many years that the groundwood fiber lent itself to quality printing better than chemical fibers. Unfortunately, however, because of the fact that groundwood does deteriorate when exposed to direct sunlight, the general public was not aware of the suitability of these papers for general commercial printing. Over the years, by a process of education, people have become more and more conscious of the worth of groundwood papers which has resulted in a very large increase in demand. We feel, however, that this increase is only the beginning and anticipate a continuation of the increased demand of these papers.

While printing paper accounts for the great majority of the increased production, still there has been a very substantial increase in converting papers. This again we feel is the result of people determining that groundwood papers can do jobs that ten years or so ago were not thought possible with such papers.

J. D. ZELLERBACH: ". . . to sustain a manufacturing program 50% higher than that which existed in 1939, improved forest practices must extend to ownerships not now fully alive to the necessity . . . the industry should benefit from past mistakes and approach any major expansion program with caution . . ."

By J. D. Zellerbach

Vice President, National Association of Manufacturers; Member, WPB Overall Pulp and Paper Industry Advisory Committee, and President, Crown Zellerbach Corp.

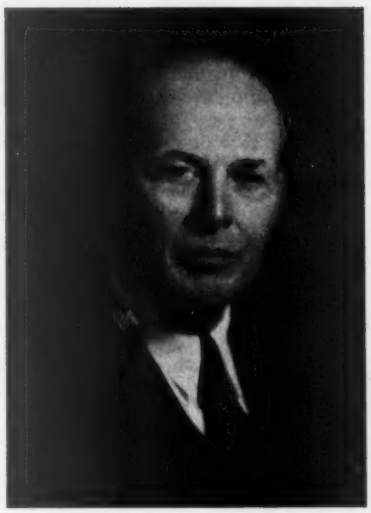
I hesitate to make predictions in a case of this kind where there are so many uncertainties, about many of which the experts are already in considerable disagreement. It is generally accepted that the volume of consumption of pulp and paper is to a very large degree governed by the general volume of business, and there is your first important point of disagreement. Estimates of experts vary from as high as $160,000,000,000 of postwar national income to as low as $100,000,000,000 or even less.

On the question of Scandinavian imports there also seems to be considerable disagreement. We must recognize the fact that the Scandinavians, Finns and possibly even the Russians will have to export forest products to supply themselves with funds with which to purchase machinery and equipment, food products, etc. The United States is certainly the most important market for pulp and paper and will be in a position to pay for what it purchases. I should think this fact would influence the exporters of pulp and paper to exert strong pressure to reestablish themselves in the sale of large tonnage in this market. Russia, of course, is unpredictable; the effect of government policy will have a considerable bearing. Indications are that most important foreign countries will strictly control imports and exports so that the natural economic laws will not always be determinative.

Now, coming to Mr. Housley's prediction that in the second year after the war the paper industry will be called upon to supply 20 million tons of production; we are talking about a figure that is almost 50% greater than production in 1939, the last pre-war year, which is quite a substantial increase. It is possible that when labor, raw material and equipment are available to the industry it could sell this amount of tonnage for a period of time because of the necessity for reestablishing inventories, filling the immediate postwar backed-up demands for various consumer products, etc. It is reasonable to expect some modernization of existing plants, some shifts in manufacture and some new installations. However, it would seem unwise for the industry to step up its building program to meet a prophesied demand which might very well be temporary for, as so frequently has happened in the past, it might then find itself with considerable overcapacity to meet the years of normal demand, with resultant adverse financial effect on the industry.

There is one other important point that the industry must now consider in connection with any expansion program and that is the availability of its major raw material—pulpwood. It is questionable whether the forests of North America can sustain any substantially increased demands upon them, having in mind the necessity for expansion of forest conservation practices either voluntarily or under government regulation in the postwar era. A number of progressive forest owners have recognized this need for some years and are rapidly setting their forests in order by sound management and fuller utilization of wood which comes to their mills. However, to sustain a manufacturing program 50% higher than that which existed in 1939, tree farming and improved forest practices generally must extend to ownerships not now fully alive to the necessity.

In my judgment, the industry should benefit from its past mistakes and approach any major expansion program with caution.



R. B. WOLF—". . . The industry's long term position undoubtedly will be healthier if the building of entirely new projects is delayed. . ."

By R. B. Wolf

Vice President, American Paper & Pulp Assn., Pacific Coast Regional Director for the U. S. Pulp Producers Assn. and Manager, Pulp Div., Weyerhaeuser Timber Co.

I have read the Housley report with much interest. You are rendering a useful service to your subscribers by publishing it.

You ask for comments, so here they are:

The report is very informative and I believe should be read by every executive in the pulp and paper industry, especially those responsible for major policies.

The conclusions reached follow logically from a study of the data presented. It should be pointed out, however, that too much optimism can bring about undesirable over-expansion in pulp and paper facilities. There is already some evidence of this tendency, for several new postwar projects are being promoted, some of which call for the use of government loans.

The industry's long term position will undoubtedly be healthier if the building of entirely new projects is delayed. They should be postponed at least until it can be determined to what extent the greater productive capacity of present facilities can provide the paper required. As indicated in the report, the new methods being applied to existing operations are bound to enhance production materially.

The report mentions some of the new uses of paper developed to relieve the shortages in metals and

other raw materials. I do not believe it stresses enough the certainty of keen postwar competition from other forms of packaging and the retarding effect of this upon paper demand.

After all, increased production brought about by technological improvements in existing mills is in the long run sounder, both socially and economically, than increasing the number of operating units.

By Rex W. Hovey

Former Director and now Consultant to the Paper Division, Forest Products Bureau, War Production Board, and Vice President in Charge of Production, Oxford Paper Co.

Regarding Mr. Housley's report I am glad to note that you plan to feature this in your next issue. I think this report is very timely and will be a real contribution to the statistical data of the industry. In my opinion, never in the history of our industry for many years has it been so important that the industry give careful consideration to its raw material supplies and its paper and paperboard production, both nationally and internationally.

Everything would indicate that Mr. Housley is justified in presenting a pulp shortage in the immediate postwar years, and this will undoubtedly be reflected in the supply of paper and paperboard products.

In the past, however, the industry has tended at times to expand its capacity in relation to the total consumption, and this has been very harmful to the industry. Let's hope that this will not result in the post war period.

There is a challenge to the industry in the expansion of its products in highly competitive fields which, if successfully accomplished, can only result in ultimate benefit to the industry.

I trust that there will be further analyses of Mr. Housley's reports by your magazine so that the full import of the data may be graphically presented.

REX. W. HOVEY—". . . never before in history of our industry has it been so important to give careful consideration to its raw materials . . ."

W. IRVING OSBORNE, JR.—". . . My own guess would have been about five per cent less for the second year after V-E Day (than Housley's paperboard forecast) but if the general atmosphere is such as to encourage production, the 8,280,000 tons of paperboard will be reached in the first three or four postwar years. . ."

By W. Irving Osborne, Jr.

President, National Paperboard Assn., and President, Cornell Wood Products Co.

In regard to Mr. Housley's report, I feel I can only comment on the paperboard section, wherein Mr. Housley anticipates that in the second year after V-E Day we will produce 8,280,000 tons of container, boxboard, and miscellaneous grades of paperboard, plus 1,000,000 tons in building boards.

The report does not go into detail as to the basis for these predictions, and in assuming any estimate of future needs for paperboard we must make some assumptions as to general business conditions. It is our experience that the demand for paperboard is in direct proportion to general business production, and particularly the production of consumers' non-durable goods. Assuming that in the immediate postwar years the production of such items will be at least 150 per cent of the 1936-1939 average, I then feel Mr. Housley's prediction of 8,280,000 tons of strictly paperboard is pretty well in line with expectations.

My own guess would have been about five per cent less for the second year after V-E Day, but I also feel sure that if the general atmosphere in this country in the postwar years is such as to encourage substantial business production, the predictions of 8,280,000 tons will certainly be reached in the first three or four postwar years.

I am not as familiar with the statistical background of building boards, but it would seem that with the same qualifications the 1,000,000-ton figure would not be out of line.

ROY K. FERGUSON: ". . . the industry will meet this challenge with progressive production and sales methods . . ."

By Roy K. Ferguson

Vice President, American Paper & Pulp Assn., and President, St. Regis Paper Co.

I have had only a brief opportunity to scan the report. However, I find myself in general agreement with the conclusions.

I fully concur in the belief that the upward trend in paper and paperboard demand for civilian uses will resume with the return of peace and I am equally confident that the industry will meet this challenge with progressive production and sales methods.

By E. W. Tinker

Executive Secretary, American Paper and Pulp Association.

I have read with considerable interest the statement of Mr. Housley and while I am not in complete accord with all of his statements, I believe that he has performed a valuable service to the industry in marshalling and coordinating statistical data that will afford the essential background for company planning.

Mr. Housley's article starts with the assumption that there will be an adequate supply of raw material in the postwar period. His estimate of current pulp capacity is 12,790,000 tons—"based on the highest quarterly production attained during the period October 1941 through December 1942, and adjusted for machinery added since 1942." The U. S. Pulp Producers Association, on the other hand, has estimated current productive capacity at 10,816,812 tons—this total is based on "each company's estimate of its normal maximum annual capacity (with adequate supplies of wood, labor and transportation), based on daily rated capacity multiplied by the number of days per year each mill is normally operated."

It is true that in the postwar period labor, equipment, transportation, etc., should not be the limiting factors in U. S. pulp production, that they have been during the war period. On the other hand, the war, to a degree, has served as a production incentive, and there may be some difficulty in maintaining the longer hours, the seven-day workweek, and the marginal production that war conditions have, in some instances, justified.

All things considered the capacity estimate of the U. S. Pulp Producers Assn. (10,816,812 tons) appears to me to be more realistic than the estimate supported by Mr. Housley (12,790,000 tons). It is my opinion that in appraising our postwar position it is dangerous to assume as a premise that "there will be an adequate supply of raw material" in the postwar period. Raw material supply, in my opinion, will continue to be the crux of the industry's production problem in the postwar period as it has been during the war period.

Mr. Housley's estimate of postwar import requirements of wood pulp is 1,660,000 tons. U. S. wood pulp imports in 1937, a peak year, totalled 2,294,605 tons. In view of changed world conditions, Mr. Housley's estimate of 1,660,000 tons as a total import supply for the second year following V-E Day would seem to be not too far out of line.

E. W. "TED" TINKER — "I would anticipate a total (U. S.) paper production potential in second year after V-E Day of about 18,740,000 tons. . ."

The total U. S. new supply (production plus imports less exports) of wood in recent calendar years is indicated below:

U. S. New Supply of Wood Pulp

(Production Plus Imports Minus Exports)

1937	8,644,979
1938	7,503,469
1939	8,880,271
1940	9,703,191
1941	11,204,700
1942	11,617,762
1943	10,582,005
1944 (est.)	10,500,000

If I were to hazard a guess with respect to potential new supply of pulp for the second year after V-E Day then, based on the past record and hazardous appraisals of many future contingencies, my estimate would be in the neighborhood of 12,000,000 tons.

It is my opinion that with the elimination of government control orders, and the gradual restoration of normal basic weights, the postwar ratio of wood pulp consumption to paper production will more nearly approximate the prewar ratio than the ratio that obtained under conditions of wartime use. If this is the case, I would anticipate a total paper production potential in the second year after V-E Day of approximately 18,740,000 tons, presupposing, of course, a continued firm demand for our product and reasonably unrestricted operating conditions.

There are, of course, a number of factors that could materially alter postwar trends and predictions. One of the most important of these will be the relationship of OPA to the pulp and paper economy after V-E Day; failure of OPA to keep abreast of trends and developments in the postwar period could have disastrous effects on the supply of both pulp and paper.

Another factor that must not be overlooked is the relationship of timber supply to paper production. The availability of an adequate wood supply, governmental conservation policies, and forest tax policies could all have a very significant effect on paper production and upon the possible postwar expansion of productive facilities.

In view of the uncertainties of the situation it would be my opinion that postwar industry expansion will be cautious. Further, in the light of current WPB policies with respect to new construction, I would seriously doubt that any substantial volume of new productive capacity will be in operation in the second year after V-E Day, particularly if the Japanese war continues as an item of unfinished business.

By Oliver M. Porter

Executive Director, U. S. Pulp Producers Assn.

I am glad to note that you plan to feature "Postwar Demand for Paper and Paperboard" in PULP AND PAPER INDUSTRY.

This report is very timely. It should be a definite contribution to the industry's thinking in respect to postwar problems of supply and demand. It merits careful study by all interested in this basic industry.

This report presents a rather optimistic picture of our postwar pulp requirements. The supply, in the immediate postwar years, may not be sufficient to meet the demand anticipated by this report.

Eventually, there will probably be a considerable increase over existing productive facilities throughout the world. It seems unlikely, however that this construction will be completed in time to meet the reconstruction and rehabilitation requirements of the early postwars years.

It therefore seems possible that the impact of expanding world pulp producing capacity may be felt at a time when the pent-up demand resulting from war will have been largely satisfied. Under such circumstances it would seem advisable to keep our domestic expansion pro-

gram in the closest possible balance with prospective demand.

To that end, every effort should be made to develop such statistical and economic surveys, along the lines of this Housley report, as will keep both producers and consumers of pulp continuously informed regarding stocks, production and market requirements.

Such surveys should cover not only world geographic markets, but also actual and prospective consumption by various industries and their component parts. The United States Pulp Producers Association would welcome opportunities to cooperate with domestic consumers and foreign producers of pulp in the development of such basic statistics.

By John H. Smith

President, Pacific Coast Association of Pulp & Paper Manufacturers, and President and General Manager, Hawley Pulp & Paper Co.

I was indeed interested in reading the summary of a report by Mr. Housley on the future of the paper industry, and also the complete report which you plan to publish in your January issue.

While I feel optimistic as to the future of the pulp and paper industry in this country, I must admit I think Mr. Housley's report is overly optimistic.

I anticipate postwar years will bring considerable improvement in both products and manufacturing methods in the pulp and paper industry on the west coast as well as in the balance of the nation, and also some expansion of plant facilities if and when tax laws are modified in a way that would justify capital investment in expansion of plant facilities.

By R. B. Stevens

President, The Tissue Association, and Vice President, Stevens & Thompson Paper Co.

You have asked me to comment on the article on Mr. Housley's report and I am glad to do so, so far as the tissue paper field is concerned. I do wish to make one general comment, however, to the effect that I can see no conclusive evidence of a correlation between national income and paper and paperboard production, the assumption which appears to be the basis from which Mr. Housley draws his conclusions. This subject is discussed in an enlightening manner in the October issue of the American Paper and Pulp Association Monthly Statistical Summary and I believe that any of your readers who have not already seen it would be interested in that discussion.

JOHN H. SMITH: ". . . I think Mr. Housley's report is overly optimistic . . . I anticipate some expansion of plant facilities if and when tax laws are modified in a way that would justify capital investment . . ."

I also feel that overall studies such as that of Mr. Housley can be very misleading and that the only way to develop a worthwhile forecast of the future of the industry is to study each general type of paper, such as tissue paper, use by use and grade by grade. The results so obtained should then be checked against more general studies. I am convinced that the foundation of any successful forecast of postwar conditions must be based on a series of "grass root" studies.

Taking up Mr. Housley's paragraph on Sanitary and Tissue Paper, it seems to me that the following points must be given careful consideration:

Facial Tissues—It is logical to expect some increase in the consumption of facial tissue once restrictions on pulp are lifted. This product has received a considerable amount of desirable publicity just because of its scarcity. It may be, however, that with improvements in the manpower situation in laundries, some of the demand for facial tissue which exists today will shift to textile products.

Paper Towels—The heavy demand for paper towels during the war period has been caused by several factors not the least of which is the effect of the manpower situation on the laundry industry. Another is the demand for paper towels from the armed forces. A third factor is the greatly increased use of paper towels in industrial plants. The following deflationary factors must be taken into consideration for the postwar period.

(1) Increased availbility of cotton textile products.

(2) Decreased demand from industrial plants due to a falling off in industrial activity.

(3) Decreased demand from the armed forces.

The paper towel manufacturers believe that the scarcity of their product during the war period and the use of paper towels by many in the armed forces who had not previously been accustomed to using them has helped give this product favorable publicity, but they realize they will have to fight for their share of the "consumer's dollar" and question the optimistic view expressed by Mr. Housley.

Toilet Tissue—The per capita consumption for toilet tissue is at present at an all time high. It is believed that with continuing improvement in housing conditions and continuing sanitary education, the consumption of this product will maintain a steady rate of increase. It should be borne in mind however, that war time consumption both by the armed forces and civilians, especially in industrial plants, is wasteful consumption, and while it is confidently expected that eventually per capita consumption of this product will show marked increases, such increases are not so likely to come during the first two years after V-E Day. The toilet tissue industry is also faced with the likelihood of reduced demand during the immediate post war period because of the disposal of the armed force surpluses.

Waxing Tissue—The demand for waxing tissue actually fell off during the period from 1935 to 1941 inclusive. The Bureau of the Census reports a production of 46,138 tons in 1935 and 40,353 tons in 1941. In 1942 the production was almost 47,000 tons and in 1943 it was 58,660 tons. It is probable that the production will be only slightly under that of 1943. These figures seem to indicate that the increase in the production of waxing tissue is directly due to war conditions and that the manufacturers of this product must expect a decrease after the war instead of an increase.

Wrapping Tissue — Manufacturers of wrapping tissue have suffered

heavily because of war conditions. Their production in 1940 was 67,970 tons and only 44,848 tons in 1943. 1944 figures will probably be a little under those for 1943. This is due largely to reduced pulp allocations based on WPB's evaluation of the essentiality of this product. The manufacturers of wrapping tissue confidently expect to re-gain their old market once there is an adequate supply of pulp, but there is no indication of any marked increase in the demand for this product. It should be noted that production of this item was 67,240 tons in 1935 and 68,021 tons in 1941 which does not agree with Mr. Housley's statement that the production of wrapping tissue increased during the past decade.

Twisting Tissue — Mr. Housley states that "the use of twisted and woven tissue papers in the manufacture of floor coverings and other products will undoubtedly increase." This seems to us questionable. The present demand for twisted tissue from manufacturers of floor coverings will show a marked decrease once an ample supply of jute becomes available. Carpet twine made from the paper has certain definite advantages, but jute also has advantages. Our information indicates that the average carpet manufacturers will be inclined to re-convert to the use of jute instead of paper at least for the first few years after V-E Day. Further improvements in carpet twine made from tissue paper may change the carpet manufacturers back to our product, but the twisting tissue manufacturer assumes that there are also brains and ingenuity in the jute business and that he must anticipate improvements in that product. Twisting tissue manufacturers expect to hold the peace-time market for their product and hope for expansion in other fields, but there is as yet no definite evidence that the market will show anything beyond a moderate but steady growth.

Pattern Tissue — Mr. Housley does not mention pattern tissue. The production of pattern tissue in 1937, the first year for which separate figures are available, was 6,237 tons. This dropped to 3,529 tons by 1941 and under war restrictions was 2,980 tons in 1943. The significant factor was the drop from 1937 to 1941 which would appear to indicate that this product showed a marked decreasing trend in consumption during peace time. We see no reason to anticipate any change in this trend during the post war period. There are other items which Mr. Housley does not mention. Among these are fruit and vegetable wrapping tissue which has had a moderate increase in consumption from year to year, which should continue. There are other miscellaneous uses for tissue paper some of which will shrink after the war and others which should increase considerably, but the tonnage is not important in any of these.

DWIGHT L. STOCKER—". . . opportunities for paper industry have just been scratched. . ."

In the comments above, I have tried to make a realistic appraisal of the prospects of the tissue division of the paper industry in the post war period. I am by no means pessimistic about the future. I believe the tissue paper manufacturers are alert to the necessity for continued improvements in their products, for the development of new products and for improved merchandising. I believe this alertness will give them a fair share of the "consumer's dollar" through the post war years, but I feel that such optimistic prophecies as those of Mr. Housley are likely to do more harm than good to the industry and that the general condition not only of the tissue division, but of all the branches of the industry will be sounder and healthier if there is a realistic appraisal of the situation.

By Dwight L. Stocker

President, The Association of Pulp Consumers and President, The Michigan Paper Co. of Plainwell.

The article by Mr. Housley should be most interesting to everyone.

I have talked to many of our members concerning their ideas on this subject during the past year and find that most of them feel that the opportunities for the paper industry have just been scratched and that we should in the years to come find a greater opportunity to serve the American people.

By Fred Enders

President, Bulkley, Dunton Pulp Co.

As in all forecasts of this nature, Mr. Housley's conclusions are based on unpredictable factors. These factors furthermore are not only unpredictable but also interdependent. Mr. Housley points out that 20,000,000 tons of annual production of paper the second year after V-E Day depends 1: on an adequate supply of raw material and labor, 2: a continuing high level of industrial activity and 3: the industry's ability to meet the expanding demands for paper and paper products.

I am inclined to agree with the opinion of most observers that the termination of the European war will be followed by a high level of demand for pulp, paper and paper products. It is not impossible that United States producers will be called upon to supply 20,000,000 tons of paper the second year after Ger-

FRED ENDERS: ". . . Industry's ability to meet demand will depend largely on the availability of manpower and ability to replace wornout machinery."

many is defeated, but the very fact that this huge demand will depend on a continuing high level of industrial activity brings up the question of raw materials and manpower, the availability of which in turn depends on the relationship between overall manpower requirements and supply. The industry's ability to meet the demand will largely depend on the availability of manpower, chiefly forest workers, and on the manufacturers' ability to replace worn out and install new machinery and equipment.

By T. W. Fernald

President, American Pulpwood Assn. (Mead Corp., New York).

I think the report by Mr. Housley is an excellent analysis of the postwar situation in our industry.

There are only two points that I wish to comment on briefly. First, it seems to me that Mr. Housley is unduly pessimistic about the pulp which will be imported by this country in the immediate postwar period. Second, I feel that he tends to be optimistic in the demand for paper and paperboard in this period. It is possible that his opinion is based upon factors which an individual does not have available and, of course, I hope that his picture of the postwar demand is not over-optimistic.

Based on the present labor situation and our experience after the first World War, we do not look for any great increase in the supply of pulpwood in this country until some time, possibly two or three years after victory in Europe.

M. C. DOBROW: ". . . best postwar analysis I have seen thus far. . ."

By M. C. Dobrow

Executive Secretary, Writing Paper Manufacturers Assn.

I have read Mr. Housley's report on Postwar Demand for Paper and Paperboard, and find it an excellent presentation of a most difficult subject.

It is the best postwar analysis for the paper industry that I have seen thus far, and I believe that all members of the industry will want to study it carefully.

By William Donaldson

Secretary, Perkins Goodwin Co., pulp and paper brokers.

The report by Mr. Housley is a good job — well done and most valuable and interesting information. I know our whole pulp and paper industry will appreciate this good work and get an awful lot of information therefrom.

By John D. Zinc

President, Writing Paper Manufacturers Assn., and President, Strathmore Paper Co.

The Housley report seems to me to be a very realistic presentation of the postwar supply and demand for paper and paperboard both in this country and abroad.

We must take into consideration, however, that this report is based on certain premises. If those premises are correct, the demand for paper and board will be extremely great for a considerable period of time after the war.

By Einar Flygt

Vice President, Swedish Cellulose Co., and Swedish delegate to International Business Conference, Rye, N. Y.

I have read Mr. Housley's report with great interest and thank you for the courtesy in offering me an opportunity to comment.

I regret that under the circumstances I am unable to add to my statement on this matter issued last month. (In that statement, he said, "Sweden has between 600,000 and 700,000 tons of chemical pulp in stock and when trade routes have been opened, it will produce about 225,000 tons monthly of such pulp for export. For the U. S. at least 1,000,000 tons will be available during the first twelve months.—Ed. note—The Housley reports sets U. S. imports from all Europe at half this figure for the second year after V-E Day.)

How Additional Production Will Be Attained; Plans for New Mills and Modernization

HOW is the North American pulp and paper industry planning to attain additional postwar production?

In view of predictions made in the Housley report, published in full on preceding pages, and other forecasts of increased paper and paperboard demand, it is interesting to review the modernization plans of the industry.

The following additional pulp producing units, recently built, building or to be built or restored, would add up to a lot of additional pulp and paper:

1. Southland Paper Mills, Lufkin, Texas, bleached sulphate pulp, 175 tons.

2. KVP Limited, Espanola, Ont., bleached sulphate pulp, 200 tons (all to be made into paper at Kalamazoo Vegetable Parchment Co., Parchment, Mich.).

3. Marathon Paper Mills of Canada, Marathon (Peninsula) Ont., bleached sulphate pulp, 270 tons (all to be made into paper by Marathon Corp. mills.)

4. Powell River Co., Powell River, B. C., sulphate pulp of undetermined amount (in 1942 this company built a 225-ton unbleached sulphite plant as an addition to its groundwood and newsprint plants.)

5. Bloedel, Stewart & Welch Co., Port Alberni, British Columbia, unbleached sulphate pulp, 125 tons.

6. Brompton Pulp & Paper Co., Red Rock, Ont., unbleached sulphate pulp, 40 tons.

7. Weyerhaeuser Timber Co., at Longview, Wash., sulphate pulp, 200 tons. (This company presently has capacity of 510 tons sulphite pulp in two mills.)

8. Berst-Forster-Dixfield Co., Ogdensburg, N. Y., groundwood and sulphite, 100 and 110 tons, respectively. (Recently purchased, this long idle mill will eventually also make paper products.)

9. W. B. Milner and associates, Giscome, British Columbia, mill, unbleached sulphite, 200 tons.

Other recent announcements of expansion:

1. Modernization and possible additions at the present 300-ton sulphate pulp mill at St. Regis Paper

Co.'s Tacoma, Wash., operations.

2. Purchase and reopening of the International Paper Co.'s idle Fort Edward, N. Y., paper mill by Scott Paper Co., for more tissue output.

3. St. Regis Paper Co.'s expansion of bleached sulphite and bleached groundwood pulp capacities at Deferiet, N. Y., and addition of one paper machine.

4. Crown Zellerbach Corp.'s plans for new 1,500-ft. per minute facial tissue machine at Camas, Wash.

5. Program to double present 9,000 tons per year tissue and waxed paper capacity of Westminster Paper Mills at New Westminster, B. C., adding new machine.

6. Johnson & Johnson Co.'s plans for additional facial tissue production.

7. $3,000,000 expansion program for The Flintkote Co. board mills.

8. Construction of new board mills in Puerto Rico, Mexico and Southern United States.

9. Reconstruction of Brown Co. pulp mills at Berlin, N. H.

10. Kimberly Clark Corp. of Canada's new crepe wadding plant at Kapuskasing, Canada.

In the discussion stage still are plans for 250-ton kraft pulp and paper mill in the South, another bag and wrap plant there, and a tissue mill in Florida.

Also in this category are new proposed pulp mills in Couer d' Alene, Idaho, and Polson, Mont.

There are a number of other important expansion programs in the making which have not yet been announced, including plans of some of the large, well-established companies in the industry.

Talk of Montana And Idaho Mills Revives

● L. A. DeGuere, engineer, of Wisconsin Rapids, Wis., who in past years had been identified with programs for a new pulp and paper mill in the Idaho-Montana region, is once again actively engaged in preliminary planning of similar enterprises.

The Idaho-Montana Pulp & Paper Co. has just reached the stage of preparing incorporation papers and Mr. DeGuere has surveyed spruce and other timber stands in the region and declared them adequate for two mills—one on Flathead Lake, at Polson, Mont., and the other at Couer d'Alene, Idaho, on the Spokane River, west of an Ohio Match Co. plant.

The two mills would make unbleached sulphite pulp and newsprint.

The company is represented in Idaho by W. T. McNaughton, Coeur d'Alene attorney. Others of the syndicate are A. E. Douglas of St. Maries, Idaho; F. W. Emory of Polson, Mont.; Stephen DeMers, also of Polson; J. J. Reese, Clumbia Falls, Mont.; John L. Campbell of Missoula, Mont.

St. Regis Tacoma Mill To Have Hydraulic Barker

● The Kraft Pulp Division, St. Regis Paper Co., Tacoma, Wash., has joined the growing list of pulp and paper mills which are going to substitute hydraulic log barking equipment for mechanical barking.

Walter DeLong, vice president and manager of the Tacoma operations, said he expected to decide soon on the method of hydraulic barking which will be adopted at the Tacoma mill and that the installation will be made this year.

New Factory Building

Angelus Paper Box Co., 751 N. Broadway, Los Angeles, has recently acquired 4½ acres adjoining its present plant at 621 E. 61st, and plans to erect a new factory building early in the postwar period.

Dryden Paper Co. Plans $550,000 Program

● Dryden Paper Co. plans to spend about $550,000 in its current plant improvement and modernization program. according to President F. A. Sabbaton. The company, at its mill in Dryden, Ontario, produces kraft and sheathing.

About $372,000 had been spent up to October 1, the start of the fiscal year.

American Writing Paper Sells Three Mills

● American Writing Paper Corp. has sold three of its idle mills in Holyoke, Mass. — the Beebe-Holbrook, Massasoit and Wauregan divisions—to Holyoke Water Power Co. Assessed valuation of the mills with power rights is $275,080.

American Writing Paper plans extensive improvements and coordination of its six other mills in Holyoke.

New Pulp Allocations Aim Toward High Record

● U. S. mills have been allocated a total of 2,681,000 tons of pulp for the first quarter of 1945, about the same as the 1944 fourth quarter allocation. It is intended by WPB authorities for production of a minimum of 4,401,963 tons of paper.

Grocery bag and wrapping paper production will be increased but multiwall bag, absorbent paper, gummed paper and envelope paper will be decreased.

The military demand for more high tenacity rayon tire cord caused allowance of a 4,000-ton increase in the allocation of pulp for non-paper uses. It will total 109,719 tons for the quarter.

Pulp for export was upped by 20,000 tons to 61,281, owing mainly to increased demand in liberated countries.

If the rate of paper production for the quarter is carried throughout 1945 it would mean a total production of 17,607,852 tons, only 54,513 tons under the all-time high output of 1941 and about 800,000 tons over the estimated 1944 production.

Southern Publishers Meet to Discuss Prospects for Newsprint Mill

● The Southern Newsprint Mills Committee, spearhead of a determined movement on the part of southern publishers to start up a second southern newsprint mill, was planning a meeting this month to review forest resource studies made in its behalf.

"We have assembled a great deal of data concerning various pine forest areas in the south," the chairman, C. B. Short, has advised PULP & PAPER INDUSTRY. Mr. Short is general manager of the Times-World Corp., of Roanoke, Va., publishers of two newspapers in that city. Managers or directors of twelve other newspapers of six Southern states serve on the committee.

"All of this data has been studied by our consulting engineer, and plans are under way for a meeting of the committee to be held sometime during the month of January," continued Mr. Short.

"Several financial groups are interested in our project, but it now appears actual construction cannot begin until the end of hostilities."

Success of the first mill to make news from southern pine, the Southland Paper Mills at Lufkin, Texas, has encouraged southern publishers to obtain what they describe as "an enlarged and dependable supply of essential paper."

More Facts On St. Regis Expansion

More facts on the $3,000,000 St. Regis Co. program to expand the Deferiet, N. Y., mill for present and postwar production of magazine and printing papers under the recently developed bleached groundwood process:

1. The new high speed 212-inch Fourdrinier paper machine will be made by Bagley and Sewell Co.

2. A new solozone bleach plant of St. Regis' own design.

3. New steam plant.

In our first announcement published last month (page 58) it was reported that three paper machines would be equipped to do machine coating; also that a battery of Roberts grinders (from Appleton Machine Co.) would be installed.

A Statement of Postwar Policies From the U. S. Pulp Producers

● The U. S. Pulp Producers Association has adopted a statement of postwar policies including a proposal for "periodic international conferences of wood pulp producers, to be held alternately in Europe and North America."

The association, which lays claim to representing 80 per cent of the wood pulp sold by the domestic industry and 60 per cent of all pulp produced in the U. S., issued through its office at 122 East 42nd St., New York 17, an eight-page folder setting forth a concise but forthright statement of its position in regard to many postwar problems.

The folder "Postwar Policies for the U. S. Pulp Wood Industry" may be obtained on request and merits study in its entirety. It pointed out how the industry proved its essentiality to natural security in wartime and in the years to come.

According to the statement, the organization of pulp producers:

1. "Is not seeking tariff protection."

2. "Proposes to use every legal resource at its command and to seek government assistance if necessary . . . to prevent unfair competitive trade practices which enable foreign producers to dump wood pulp in this market at less than fair values. . ."

3. "Will support sound state and federal forest tax laws . . . a national economy which make possible the profitable use of all forest resources and will encourage and justify the long term investment necessary to ensure a permanent supply of pulpwood."

4. Believes government controls of production, distribution and consumption of wood pulp "should be relinquished as rapidly and completely as practicable" and that "any temporary postwar regulation of wood pulp imports and exports . . . should be kept to a minimum."

5. "Recognizes the need for early rehabilitation of countries suffering from effects of war" and is prepared to assist "to the extent that its production may be sufficient to supply both the anticipated domestic postwar needs and that part of the world's essential cellulose requirements which cannot be obtained from accumulated foreign stocks or foreign productions."

6. Advocates "some form of international currency stabilization."

7. Recommends that "buyers and sellers of pulp should undertake the development of statistical and economic surveys" . . . covering "not only broad geographical markets but also actual and prospective consumption by various industries and their component parts."

8. Is prepared to "exchange basic statistics with foreign pulp producers" and to this end, advocates international conferences "to be arranged as soon as possible."

TAPPI Medal for Scribner

● Bourdon W. Scribner, chief of the paper section, National Bureau of Standards, Washington, D. C., will receive the TAPPI Gold Medal for 1945 at the final dinner of TAPPI's annual meeting at the Commodore in New York, Feb. 19-22.

A native Pennsylvanian, who served 13 years in research and technical work for West Virginia Pulp & Paper Co., Mr. Scribner has held the Washington post since 1923, directing research on many papermaking problems.

Travel Ban May Restrict TAPPI Meeting in New York

● TAPPI will hold the program scheduled for its meeting in the Commodore in New York Feb. 19-22, but it may be a local, rather than national, meeting.

Regarding the pending order of War Mobilization Director James F. Byrnes, banning national meetings, R. G. Macdonald, secretary of TAPPI, told PULP & PAPER INDUSTRY:

"TAPPI will, of course, abide by any government wartime measure but the program is set and will be held as announced. Whether members outside New York can attend will naturally depend on travel restrictions as affected by any order promulgated."

A whole day, for example, was to be devoted to "Present Practices and Postwar Trends in Pulp Bleaching," according to the pulp purification committee chairman, Dr. Donald T. Jackson, Hammermill Paper Co., Erie, Pa. But a ban on travel would keep away many of the experts he listed as participants. The experts included R. P. Hill, of Seattle; W. T. Webster, Brunswick, Ga.; C. H. Chidester, Madison, Wis.; and these men in New York state: W. H. Pitkin, John D. Rue, Viggo Ullman and J. E. Reichert.

ARTHUR A. SCHMON, President and General Manager of the Ontario Paper Co., was recently presented by friends with a silver tray commemorating 25 years service with the company. Jules Jaeger, Chief Engineer, read a testimonial accompanying the gift, which was handed to Mr. Schmon by Frank Keenan, groundwood Mill Supt.

Mr. Schmon, born in Newark, N. J., in 1895, went to Canada in 1919 and became plant manager for Ontario Paper Co. at Shelter Bay, Que. Later he was Woodlands Manager and in 1937 returned to Ontario Paper Co. He became President in 1933. In 1938 he became President of the Quebec North Shore Paper Co. newsprint mill at Baie Comeau.

Coast TAPPI Meets March 20

The next meeting of the Pacific Section of TAPPI has been set for March 20 at Bellingham, Wash. Details and program have not yet been announced.

Praise for Staying Home

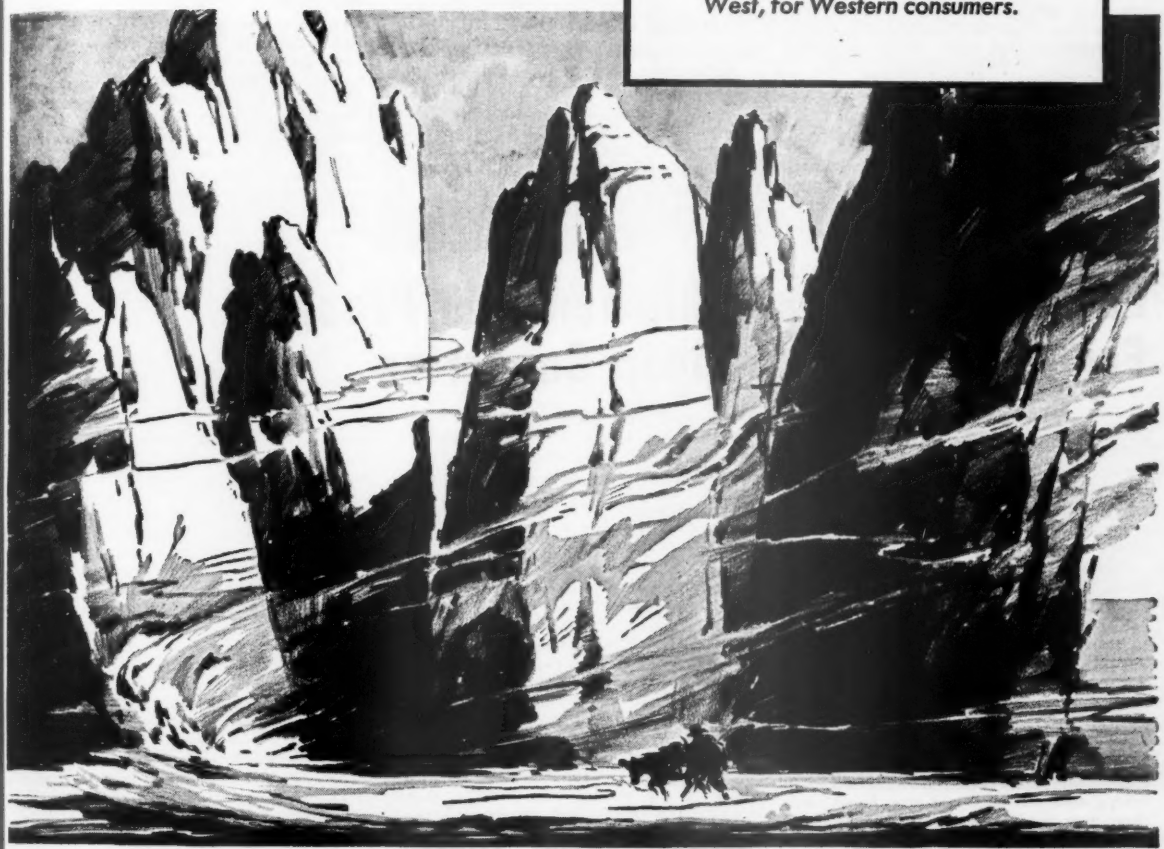
● The California Foresters of America were commended by the Office of Defense Transportation for cancelling the organization's annual convention. About 700 had been expected at the May meeting in San Jose, Calif.

Schmon's Son Killed

● Arthur Schmon, president of Ontario Paper Co., Thorold, Ont., has been advised that his son, Lieut. Richard R. Schmon, was killed in action while serving in France with the Third U. S. Army.

Bear Brand Chemicals Are Used Throughout the Western Paper Industry

Growing demands of the great Pacific pulp and paper industry for chemicals indispensable to operation are met by the extensive "local" facilities of Dow's Great Western plant. Products of dependable high quality and uniformity are made under the Bear Brand label... *in the West, for Western consumers.*



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CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

Heintzleman Arrives South for More Talk On Alaska Pulptimber Offering

● The U. S. Forest Service's offer of a 14-million cord-timber stand in the Ketchikan region of Alaska to any company that would build a mill on the spot, starting with 150 tons of pulp daily capacity, was still in the discussion stage as this issue went to press.

B. Frank Heintzleman, Regional Foreter of Juneau, Alaska, arrived in Seattle by plane on January 2 and expected to spend the remainder of January on the Pacific Coast, talking over the offering of National Forest timber with any and all interested parties. He planned to make his headquarters most of January at the Olympic hotel in Seattle.

Crown Zellerbach Corp. officials were expected to be among those who would see Mr. Heintzleman, continuing conversations they have had both in the States and in Alaska, where top executives, foresters and logging men of the Crown Zellerbach Corp. accepted the government's invitation to view and appraise the offering.

Mr. Heintzleman brought south with him a compilation of timber cruises and detailed maps of the area along the east shore of Prince of Wales Island and other waterfrontage near Ketchikan, which he completed in late December. In this most recent cruise of the area, he was said to have found that in a total of 7,500,000 ft. of spruce and hemlock (14,000,000 cords), more than 6,000,000 ft. was easily accessible and ready to cut.

Indian Claims Hang Fire

● Still a factor being weighed by any possible pulp and paper industry investors in Alaska is the Department of Interior's sponsorship of Indian claims to areas of Southeastern Alaska which include all of the best available timber, including the most of the reserved pulptimber stands.

Hearings were held in Seattle and Ketchikan by the Department of Interior. Interior Secretary Ickes would decide these claims unless the U. S. Court of Claims, the Supreme Court or Congress intervene. Mc. Ickes has said "the best interests" of the Indians might "require establishment of an Indian reservation," which would then be under his control.

The government filed briefs in the Indian claims case with the Department of Interior examiner on Jan. 3. Objectors have until Jan. 31 to file their briefs and the government until Feb. 15 to file reply briefs.

The activties of Mr. Ickes have been most unhappily timed in respect to the Forest Service's hopes of starting a pulp industry in Alaska's National Forest.

Their only hope that a deal can now be carried through would seem to be based on action in the new Congress, the Court of Claims or Supreme Court, either throwing out the Indian claims or approving some pay-off to the Indians which would still leave the timber under Forest Service control.

Large Pulp-Paper Shipments in Prospect For Liberated European Countries

● In January, as the tide of battle on the European front took a sharp change and began swinging back and forth in a series of uncertainties, the question as to postwar supplies of pulp and paper to be requested for liberated countries, and also the supplies available for occupied territories, became more of a puzzle.

For the change of fortune to Allied battle lines in the West meant, in any event, a prolonging of the war. And the further away the postwar era, the more difficult to obtain a focus.

Even before the German counter-attack, the WPB allocation committeee was facing the probabilities of heavy demands by the Foreign Economic Administration for pulp and paper for liberated countries. And more than one WPB official was concerned over the fact that FEA's demands were not only heavy, but that they had a way of coming suddenly, upsetting carefully balanced calculations. In the light of events, FEA's inability to predict far in advance is understandable.

Some WPB officials greatly fear that demands by FEA for liberated country supplies (heretofore FEA has concerned itself only with Allied country needs) may demoralize the industry, for reasons obvious to all PULP & PAPER INDUSTRY readers. Other side of the argument is that such diversion of production will be necessary to extend democratic principles through free press, to secure good will of these nations, and to re-establish educational facilities which are so dependent on a supply of printing papers.

OWI's overseas policy means, on its face, a tremendous increase in demand for pulp and paper for use abroad.

An indication of what may happen is seen in France, where it is reported that three times as many newspapers are being published as in 1939. At the same time, a partial solution for the future is indicated in the fact that only one-fifth of the 1939 paper allotment is being used—for in 1939 about 100 dailies used a large share of the 300,000 tons available to the French press, whereas now 300 papers use 60,000 tons. Circulations are smaller, and Paris editions average one page printed on two sides.

Good authority indicates that the Nazis have pretty thoroughly wrecked the Netherlands paper industry by the destruction of mills. They have likewise made the postwar demand more acute, already, by the destruction of library and school books by the thousands, informed sources say.

In this issue, in the report by Clifton Housley, the reader will note a table showing the paper and paperboard production of selected European countries for 1937. How this production might compare with postwar, no official of WPB, or individual members of the industry would hazard even a guess.

The Consulate General of the U. S. S. R. in New York declined to comment on what part Russia would play when approached by this publication.

In New York City at the present time a number of German scholars, escaped to this country, are even now at work on a set of text books, embracing all grades and subjects, for publication in Germany after the war with a view to directing the German mind toward democracy. The books will be published in Germany after the war by Bermann-Fischer Verlag, anti-Nazi publishing house whose president, G. B. Fischer, maintains an office in New York.

Interviewed by the eastern representative of PULP & PAPER INDUSTRY, Mr. Fischer said that the books will be printed and bound in Sweden and Norway and Switzerland, and that some of the paper will come from those countries. Very little paper will be available in Germany, he said. No consultation has been held with government or industry officials here regarding the huge project, Fischer stated. Initial runs on first editions of each title will run from three to 5,000 copies. He would not venture to state the tonnage needed for the first step of the program. "My first problem will be one of getting our money out of Germany," he said. "But the manuscripts are bing written now."

Like other industries the pulp and paper manufacturers have definitely showed postwar plans into the background with renewed focus on war materials.

As indication of the inevitable trend, Walter Wilcox, director of the WPB paper division, states less pulp will be available for the overall picture during the first quarter than in the last quarter of 1944. He further says Canadian shipments have been reduced by 150,000 tons for 1945 and supplies from Scandinavia will not be available for some time. He states further that when shipping space is available large supplies must go to liberated countries and meanwhile war requirements are on the increase.

Rayonier Office Moved

● Rayonier Incorporated moved its Seattle office on Jan. 1 from the White Building to 438 Henry Building, Seattle 1; phone: Main 7400.

Jorgensen Dies

● Adolph Jorgensen, 59, salesman in the San Francisco division of the Zellerbach Paper Co., died Dec. 22, following a heart attack.

MacDONALD PACK POWER PUMP

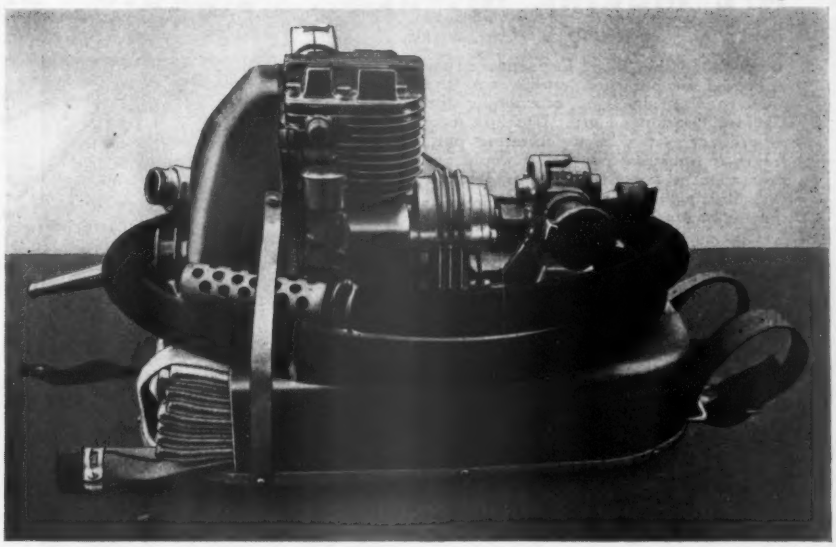
A High Pressure Pump

For

FOREST FIRE FIGHTING

and

PROTECTION AGAINST FIRE IN LOGGING AND MINING CAMPS, LUMBER YARDS, HOMES AND CAMPS.



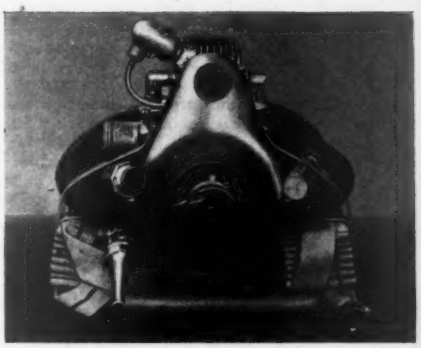
Canadian Patent No. 419778

ONE MAN PORTABLE FIRE PUMP

A light-weight portable water pump equipped with air-cooled 4-cycle one-horse-power motor, suction hose and strainer, 100 feet of 1" delivery hose and nozzle. A supply of gasoline and lubricating oil sufficient to operate the unit continuously for 4½ hours.

Damage to the engine due to racing from any cause whatever is prevented by the use of an efficient governor. Total weight, gas, oil and all equipment, 60 lbs. 7 oz.

Designed primarily to reach forest fires in difficult terrain and obstructed areas with the greatest possible speed. It is very effective in logging and mining camps, sawmills, lumber yards, villages, and many other places where portable fire-fighting equipment is needed.



U. S. Patent No. 2355035

Manufactured by

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Southern Kraft and Gaylord Container Are Making Nitrating Sulphate Pulp

● Because the War Department has approved a publicity release for the Western Cartridge Co., mentioning the Gaylord Container Corp., Bogalusa, La., as producers of sulphate nitrating pulp for their smokeless powder, it would appear that at last the Army is satisfied with the quality of southern pulp, and that more of the story now can be told.

The publicity release comes from Steve Hannagan, a well known press agent who practically made Sun Valley and Miami Beach with pictures of pretty girls. He calls sulphate nitrating pulp "kraft wrapping paper pulp." That's rather misleading, for it actually is a high quality, bleached sulphate pulp, which two Southern mills have spent many months in developing.

In June of last year, when the invasion of Europe from the west began and consumption of smokeless powder was vastly accelerated, only three western U. S. companies were making nitrating pulp. As this is written the war in Europe has taken a disturbing trend, and while no one doubts the outcome experts agree that the struggle has been lengthened by many future months. The increased use of infantry in the Pacific war, in addition to the sea activity, will certainly place an additional strain on the industry. For a time it was believed in some circles that the development of the process in the South would relieve the load on the Pacific Northwest mills which until recently were producing all the pulp raw material for smokeless powder, except that made from cotton linters, the latter being about forty per cent. Such relief appears somewhat doubtful at this stage of the game.

Gaylord Container is not the only southern mill producing nitrating pulp. The Bastrop, La., mill of the International Paper Company is also under way on it. These two mills have the newest bleach plants in the country, except for the Lufkin, Texas, bleach plant built under wartime restrictions when all desired equipment and material was not available. The bleaching processes of the two plants, it may be said, are not identical.

The pulp is being nitrated in government plants at Radford, Va., and Charleston, Ind. Says Dr. Fred Olsen, research director for Western Cartridge Co.:

"The new sulphate process opens a vast source of raw material for the production of smokeless powder. The experiments indicate that the sulphate process is less expensive than any other now in use."

Mills Had Difficulties

● The development of the sulphate process on Southern pine, one of the most plentiful of species, has not been without difficulties, and not all of these difficulties have disappeared. A certain hardness in the sheet, and the high percentage of silica, have been adverse factors. However, the research men and the technicians are working and it is only a question of time before the problems involved will be licked completely. The South is proving that it can turn out the highest qualities of pulp and paper. Sweden has produced a rayon pulp by the sulphate process, but it is believed that this is the first time in this country that a dissolving type pulp has been made by this method.

If we can distract your attention for a moment to what Ila Wachter, an ammunition worker at Western Cartridge Co., East Alton, Ill., is holding in her hands, you will note one object is a cartridge. The other is a piece of pulp. The press agent who sent in this picture called it "Wrapping Paper Nitrating Pulp," but we know a lot of Southern pulp makers who would resent that. In fact, it is a very high grade sample of bleached nitrating sulphate pulp made at Gaylord Container Corp., Bogalusa, La. The sample, 1/16 inches thick, one inch wide and 2⅛ inches long, is the amount required to make enough smokeless powder to load the cartridge shown in Miss Wachter's hand. The cartridge is for the Army's new Winchester carbine.

As Rex Vincent, technical consultant, Bulkley, Dunton Pulp Co., pointed out in our November, 1944, issue (page 30), the nirtation of wood cellulose is not new in this country. It began, he points out, in a small commercial way, in 1937. Naturally the war has speeded its development, and now these Southern processes mark a further step.

Initially, medium range calibers of weapons were big users of smokeless powder, but now the bigger guns are eating it up, and machine and anti-aircraft guns are also consumers. Last year the Army required 60 per cent of its smokeless powder to be manufactured from pulpwood. A cord of pulpwood (650 board ft.) creates enugh smokeless powder, when nitrated and manufactured into the end process, to fire 90,000 rounds of a Garand rifle, 420 of the 105MM artillery shells, or 24 sixteen-inch shells from a U. S. battlewagon.

Until the Southern mills started making nitrating pulp, all of the wood pulp made in the U. S. for this purpose was being supplied by Rayonier Incorporated, Soundview Pulp Co. and Weyerhaeuser Timber Co.

Dave Graham Quits Pulp Allocations Office

● David Graham, one of the few remaining persons who had been connected with paper industry branches of the U. S. War Production Board from their earliest days, has been forced to retire as chief of the WPB Pulp Allocations Office because of his health.

Robert Evans, assistant chief, took over the duties of chief of the office in the Railroad Retirement Bldg., Washington (25), D. C., on Dec. 20. Mr. Evans had been in banking business in New York prior to joining the WPB. Mr. Graham, who came to this country from London in 1927, had been in advertising.

Mr. Graham is the second member of the Pulp Allocations Office who has had to step out because of reasons of health. Jerry Laegerloef, formerly Mr. Evans' assistant, was forced to resign last fall and is in Violet Hill Hospital, Asheville, N. C.

Mr. Graham, described as a "whizz" at figures by those who worked with him, was presiding genius in the Pulp Allocations office from the time of its inception three years ago, his long tenure reflecting tribute to his patience, persistence and fairness.

"The conscientious job done by Dave Graham has been of great service to the government in a difficult matter," said Benton R. Cancell, acting director of WPB's Forest Products Bureau.

Born in Ireland, Mr. Graham was graduated from Massachusetts Institute of Technology in 1929 and Harvard Business School in 1931. He was with J. P. Morgan & Co. and J. Walter Thompson Co. and L. Rose & Co., London.

Crown Zellerbach Corp. In New Seattle Offices

Vice President Don Denman and the Seattle administrative staff of Crown Zellerbach Corp. have moved into 719 White Bldg., Seattle, from former quarters one floor above.

The Central Engineering Department of Crown Zellerbach Corp. has moved from Port Angeles, Wash., to new quarters at 5900 West Marginal Way, Seattle.

The engineering staff which made the move to Seattle is comprised of E. H. Vicary, W. H. Lowndes, John Whitney, R. Hutchinson, J. H. Beaver and Henry Solbakken.

Camas Personnel Change

● Bruce Dobbs, order department, Camas, Wash., mill of Crown Zellerbach Corp., has been sent to the Portland, Ore., office of the company while Carl Johnson, in charge of the Portland order department, has returned to the Camas mill.

Wylie, Nash V. P., Dies

● Howard McWilliam Wylie, 59, former vice president in charge of sales of Nash Engineering Co., died Christmas Day at his South Norwalk, Conn., home.

More Trucks in 1945

● The commercial motor truck program for 1945, as announced by the U. S. War Production Board authorizes a higher level of production as compared with 1944 figures with the exception of light trucks, for which there was no production schedule during 1944, and heavy-heavy off-highway trucks (used in Pacific Coast logging. Mediums are also used in South and West and light trucks in South.)

The units planned for domestic use:

	1945	1944
Light	35,904	
Medium	110,114	73,788
Light Heavy	31,684	20,209
Heavy-Heavy—on-Highway	9,765	7,687
Heavy-Heavy—off-Highway	1,416	1,428
Total Heavy-Heavy	11,181	9,115
Total All Sizes	188,883	103,112

WPB Pessimism On Paper Outlook

● "Paper is too precious this year to be burned," says J. A. Krug, chairman of the U. S. War Production Board. There is a desperate need for any and all types of waste paper, he said, as many waste paper collection campaigns showed depressing signs of lagging.

The turn of the year and the German offensive, which many predicted had delayed victory six months despite its short duration, has found officials in the Paper and Paperboard Divisions of WPB suddenly very pessimistic about prospects for machinery releases and relaxation of paper controls in 1945.

It is unofficially but freely predicted that the second quarter pulp allocations and other quotas may be substantially pared down.

French Africans and South Americans Study U. S. Industry

● Camas, Wash., mill of Crown Zellerbach Corp., was visited recently by Mr. and Mrs. R. Landiech, from Dakar, French Africa, who were on a tour in which they were making a study of pulp and paper manufacturing for their government.

Two South Americans visited the mill in December also. They were Marvel Burt, from Peru, and Dr. Hugo Garido from Uruguay. They are participating in a two-year study course in this country.

A Hospital Surprise

● Patients at the Marine Hospital, San Francisco, had their Christmas day brightened by the thoughtfulness and hard work of the girls in the accounting department, headquarters division, Zellerbach Paper Co., San Francisco.

Led by Miss Rose Tarantino, chairman, they raised money among themselves and fellow employees, including a donation from the Zellerbach Recreation Club, bought 200 presents, wrapped them, and took the gifts to the merchant seamen patients at he hospital.

Northwest Paper Co.

● Now ensconced in more spacious offices is Orlo Brower, district sales manager of Northwest Paper Co., San Francisco. Mr. Brower's headquarters are at Room 604-5, 391 Sutter street, phone EXbrook 6360.

JOHN S. COEY, who has been promoted from Asst. Mgr. to Manager of the Sales Development Dept., Hooker Electrochemical Co., Niagara Falls, N. Y. In 1937 he joined the Hooker technical staff in charge of the Process Study Group working on the improvement of processes and products. He is a graduate of Amherst College.

Pulp Importers Elect

The Association of American Wood Pulp Importers, with offices at 347 Madison Ave., New York 17, met Dec. 14, at the Stockholm Restaurant in that city and re-elected officers for 1945: President, A. J. Pagel; vice president, R. G. Westad; treasurer, B. Lindell; secretary, A. Blattman and director P. G. A. Sparre.

Rayonier Net Profits

● Rayonier Incorporated, manufacturers of dissolving pulps, reports for the six months ended October 31, 1944, consolidated net profit after all charges, of $900,277 compared with $891,803 in the corresponding period of 1943.

Production fell off from 142,892 tons in the six months ending Oct. 31, 1943, to 133,190 tons for the corresponding 1944 period, due largely to the fact that the Shelton, Wash., mill suspended operations in August 1943, and has not been reopened.

President Edward Bartsch states: "The demand for the Company's products continues strong with the rayon industry alone showing an increase in output for the ten months through October of 6.8 per cent over the corresponding period of 1943."

Penalty for Paper Co.

● S. Safier, Inc., Jersey City, N. J., paper supplies distributor and paper plate manufacturer, has been charged with violation of WPB Order M-241-a and directed to cut 199 tons of pulp, paper and paperboard from its usual consumption quotas during 1945.

Buy Munnell & Sherrill

● Munnell & Sherrill, a long established firm of Portland, Ore., and representative of several houses supplying pulp and paper mills, such as Pioneer Rubber Co.; Simonds Saw & Steel Co., and the Abrasive Co. has been sold by Al Sherrill, to twelve employes.

Those buying out the concern include Don Holden, a 24-year employe, who will become manager.

Bill Ash Visits Mill

● Bill Ash, beater room foreman before enlisting in the Seabees, in which he is attached to a mobile unit in the Aleutians, visited the Camas mill of Crown Zellerbach Corp. on leave.

Fibreboard Chemists Meet At Stockton

● The sixth annual conference of the Fibreboard Technical Association was held Nov. 27 to 29 at Hotel Stockton, Stockton, Calif. This is the third successive year that Stockton has been host. War conditions and Stockton's central location for the mills of Fibreboard Products Inc. made this necessary.

Those present were Bud Brown, Vernon, Calif.; Bob Holcomb, Port Angeles, Wash.; Bob Vaughn, Sumner, Wash.; Ernie O'Connor and Ed Jennings from Antioch, Calif.; Hy Rammer, Ted Markov, Ralph Beauregard and Walter Tilcock, Stockton.

Employes Travel 160 Miles To Sell Bond

● In the Seventh Victory Loan campaign, employees of Powell River Co., Powell River, B. C., created a novel record. Not only did a committee of mill employees undertake canvass of the plant but also obligated themselves to complete entire coverages of the surrounding district and the coast line from Gibson's Landing to Rock Bay, a distance of some 160 miles and mostly only available by water by means of gas boats.

The district was given a quota $450,000 and final results showed a total subscription of $548,000. The plant quota was set at $191,000 and the results totaled $218,550.

The plant salesmen were brought together for a final meeting at which Harold S. Foley, president, presented war savings certificates to the most successful.

Stein, Hall Firms Join

● Stein, Hall & Co., New York, and Stein-Hall Manufacturing Co., Chicago, have been combined and now will operate under the name of Stein, Hall & Co., Inc.

All assets will be transferred to the latter firm and all obligations of the two affiliated concerns will be assumed and paid by it. There will be no substantial changes in personnel.

Camas Man Honored

● Capt. Rodney S. Wright, on leave from the machine room of the Crown Zellerbach mill at Camas, an enlistee in the Canadian Air Force and later transferred to the American Air Force, has been awarded the Air Medal for "meritorious achievement in aerial flight."

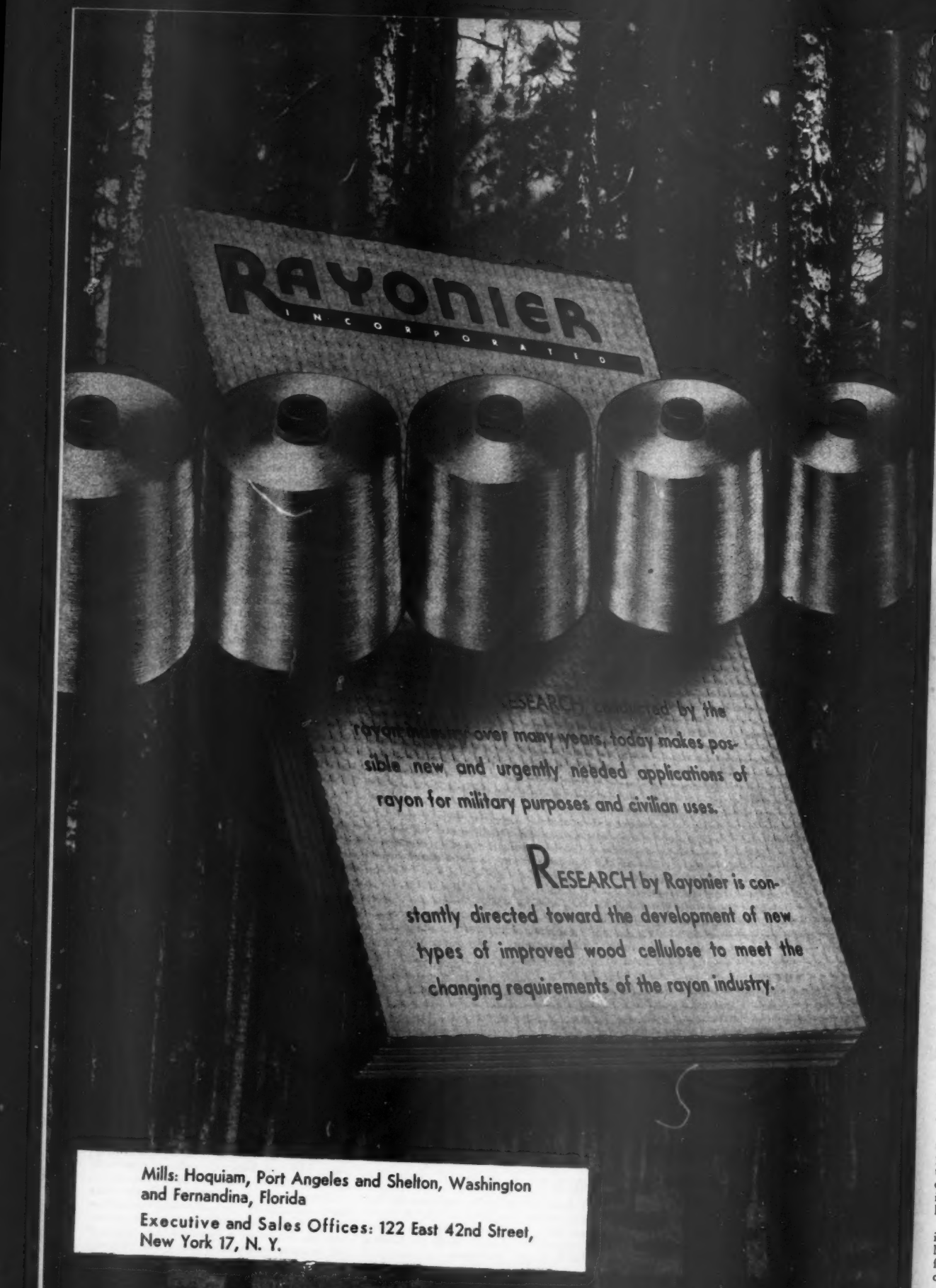
DFC for Camas Man

● Lt. Col. Robert E. Shafer, an extra worker on a paper machine at the Camas mill of Crown-Z Corp., has been awarded the Distinguished Flying Cross for extraordinary achievement on a bombing mission against the Brux Oil Refinery in Czechoslovakia in July, 1944.

Pepler Heads Assn.

● W. E. Pepler, formerly assistant manager of the Quebec Forest Industries Assn., has been confirmed in his appointment as manager, succeeding Maj. Gen. Howard Kennedy, who is now with Quebec North Shore Paper Co.

Since early in 1942 Mr. Pepler has been on loan to the pulpwood committee of the Canadian pulp and paper industry on a part-time basis in the capacity of secretary-manager.


RAYONIER
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rayon industry over many years, today makes possible new and urgently needed applications of rayon for military purposes and civilian uses.
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Executive and Sales Offices: 122 East 42nd Street, New York 17, N. Y.

Ecusta Pulp and Paper Mill, Showplace of South, Produces New Line of Writing and Air Mail Papers

ECUSTA PAPER CORP., BORDERING PISGAH NATIONAL FOREST, NORTH CAROLINA, source of virtually pure water for the mill. The Ecusta plant, recently visited by a representative of this magazine, is truly a "watch charm" plant of the industry and one of the finest and most scientifically controlled. Buildings, marked by numbers in the air photograph, are:
1—Flax Fiber Warehouses, having a capacity of a whole year's supply of raw material.
2 and 3—The Pulp Mill, housing modern digesting and bleaching equipment.
4—Building used for storage of large quantities of bleached pulp.
5—Refiner Room, containing modern beating equipment.
6—This large central building holds impressive battery of eight Black-Clawson 112-inch machines, producing a large part of America's cigarette paper requirements.
7—Finishing Building in which large machine rolls are slit into thousands of cigarette paper bobbins, each capable of producing 85,000 cigarettes.
8—The Champagne Paper Corp., located here, converts the cigarette paper into plain and gummed roll-your-own booklets.
9—Filter Plant, second largest in the South; capable of producing 25 million gallons of potable water per day.
10—Maintenance Dept. takes care of major and minor repairs, servicing all equipment, including in excess of 3,000 motors.
11—Ecusta points with pride to elaborately equipped Research and Technical Control Departments, manned by expert scientists and technicians.
12 and 13—Turbine Room and Boiler House, which supply large quantities of electricity and processed steam required in mill.
14—Main Office, facing highway from Ashville to Brevard, which crosses picture in foreground.
15—The fine Ecusta Cafeteria where less-than-cost meals are served employees.

● Entry of Ecusta Paper Corp., Pisgah Forest, N. C., into the lightweight papers field is a new development this winter which is causing considerable comment among paper dealers and converters.

This is because — despite wartime restriction on other papers — the Ecusta product is immediately available in what the company describes as "unlimited quantities." It is made wholly from American raw flax fiber, which is not on the list of critical war goods.

The Ecusta pulp and paper mill plant, in the Blue Ridge foothills of western North Carolina, has won a reputation for being one of the most scientifically controlled and excellently equipped mills in the paper industry since its completion just before the war. A staff representative of PULP & PAPER INDUSTRY toured the plant recently and found it truly a showplace of the South.

Beginning in 1939, Ecusta revolutionized the cigarette paper industry by successfully substituting American seed flax as a raw material instead of linen rags used generally up to that time.

Ecusta made the U. S. independent of foreign sources of cigarette paper supplies and now produces about two-thirds of the cigarette papers used in this country. Ecusta paper is used for Camels, Chesterfields, Old Golds, Philip Morris, Lucky Strikes, etc.

Now the new Ecusta line of writing, air mail and Bible papers of 7½ to 13-pound weights is in a market formerly dominated by linen rag papers.

The postwar prospects for these new lines of paper are regarded as especially good. Assistant Secretary of Commerce William A. M. Burden recently predicted that 5,000 aircraft will be in commercial air mail services five years after the war is over.

The paper developed by President Harry H. Straus of Ecusta and his late brother, Dr. Fritz Straus, former research director, is recommended for air mail use as it possesses both strength and opacity in light weights. It is char-

PRESIDENT HARRY H. STRAUS (left) of Ecusta Paper Corp., Pisgah Forest, N. C., and two of his key men: ROBERT M. LEVY, Director of Fundamental Research, and LEE BAUER (right), Production Supervisor.

Dr. Levy, collaborated with Ward Harrison and Peter Muffat, of the same company, in writing the articles on a proposed new standard viscosity testing method for cellulose industries which were published in the September 1944 issue of Pacific PULP & PAPER INDUSTRY. Dr. Harrison was on the staff at the Crown Zellerbach mill in Camas, Wash., ten years ago.

acterized by fine formation and whiteness.

Ecusta's new fine paper division is under the management of Charles J. Grant. Mr. Grant's experience includes many years in both the manufacturing and converting of fine papers. Just prior to joining Ecusta, he was for two years chief of the fine paper and converting section of the Paper and Paper Products Branch of the Office of Price Administration in Washington.

Ecusta papers will be distributed through leading paper merchants in the principal graphic arts centers of the country. Matching envelopes, both printed and plain, are being made by the United States Envelope Company. The list of merchants that handle the new papers include Carter, Rice & Co., Graham Co. and Zellerbach Paper Co.

Wide Use of Paperboard In Air Cargoes Predicted

● War-time developed fibreboard containers meet military specifications for air cargo packaging because they are both light and strong.

A recent survey by the Office of War Information disclosed that air cargoes totalling 22,000,000 pounds were flown from remote corners of the world during the first half of 1944. Millions more pounds of finished goods have been flown from this country to our troops and our Allies—mostly in fibreboard boxes and cartons.

An official of the Office of Civilian Requirements recently stated:

"Airborne freight is no longer an idle dream. We can look forward to permanent use of aircraft for cargo freight in peace time."

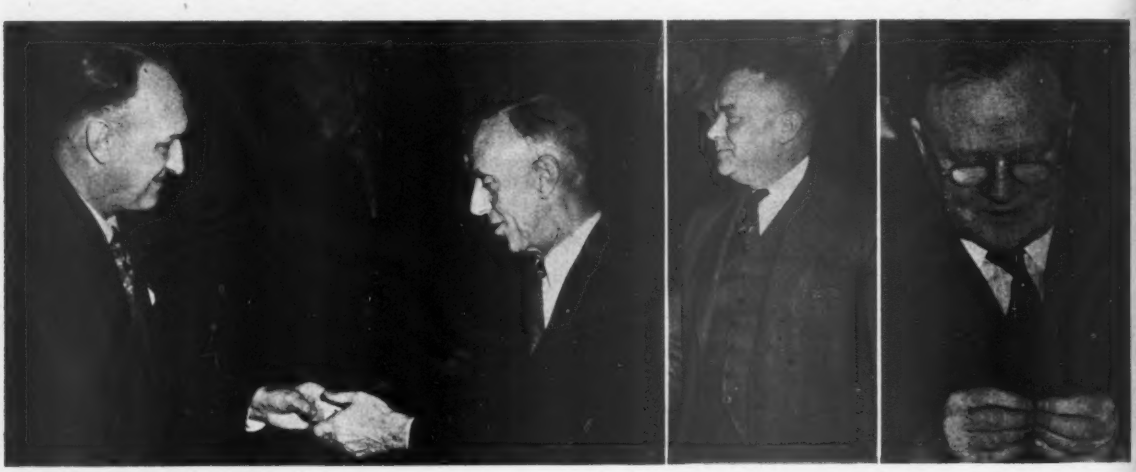
Air Mail Statistics

● Use of lightweight paper for air mail is rapidly increasing:

In 1940 the number of pieces per pound were 30; in 1943 the figure had jumped to 50. Here are the U. S. air mail statistics

1940— 33 million pounds
1941— 43 million pounds
1942— 67 million pounds
1943—114 million pounds

Pacific Mills, Ltd., Awards Pins to 20 Employes



VIEWS AT PACIFIC MILLS, LTD., DINNER IN VANCOUVER, B. C. (left to right): PRESIDENT PAUL E. COOPER presents 25-year pin to T. GODMUNDSON, Head Millwright; HARRY C. PIM, Vice President and Sales Mgr., and JAMES H. LAWSON, who also received pins. Mr. Lawson is shown holding his pin.

● About 70 key men and women and long service employees of Pacific Mills, Ltd., attended a dinner given by the company recently at Hotel Vancouver in Vancouver, B. C., in honor of staff members who have been with the company many years. Presentations were made by President Paul E. Cooper.

Chief honors went to James H. Lawson, pioneer Vancouver lawyer who for 30 years has been secretary of Pacific Mills. Mr. Lawson was with the organization when its papers of incorporation were drawn up in 1915 and he has seen it grow from infancy to a capital investment of more than $21,000,000, with an annual production valued at more that $6,000,000.

Mr. Lawson was presented with a diamond-studded pin. Similiar pins representing 25 years of service were awarded to Harry Pim, vice president and sales manager; T. Godmundson, head millwright, and G. J. Jessop, of the timber department.

Twenty-year pins were bestowed upon A. R. Webb, assistant superintendent of the conversion plant, and G. R. Bolton, of the traffic department. Fifteen-year pins were given to A. G. Griffith, E. Wiltshire, G. Poprosky and E. A. Manner; 10-year pins to T. B. Jackson, Miss Helen Main, Alec A. Finnerty, J. Sutherland and S. Watts; 5-year pins to Miss Ivy Spooner, A. Grimshaw, Miss Helmi Manner, E. R. Lester and George Fife.

In his address to the gathering, Mr. Cooper expressed pride in the company's achievements and said that the record was due in large measure to the cooperation and faithful service of the 1,400 men and women on the payroll.

Mr. Pim and J. A. Young, vice president and treasurer, also made addresses, the former dealing with the export trade prospects. Mr. Young pointed out that the Vancouver conversion plant of Pacific Mills, apart from the pulp and paper mill at Ocean Falls, has grown during 14 years of existence from an annual production rated at $250,000 to upwards of $2,000,000.

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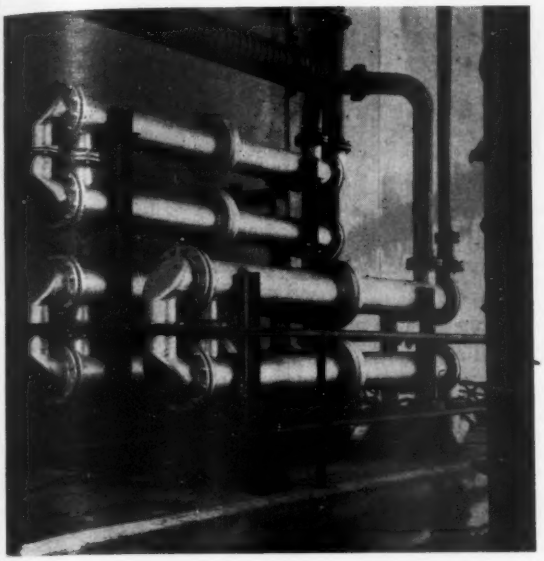

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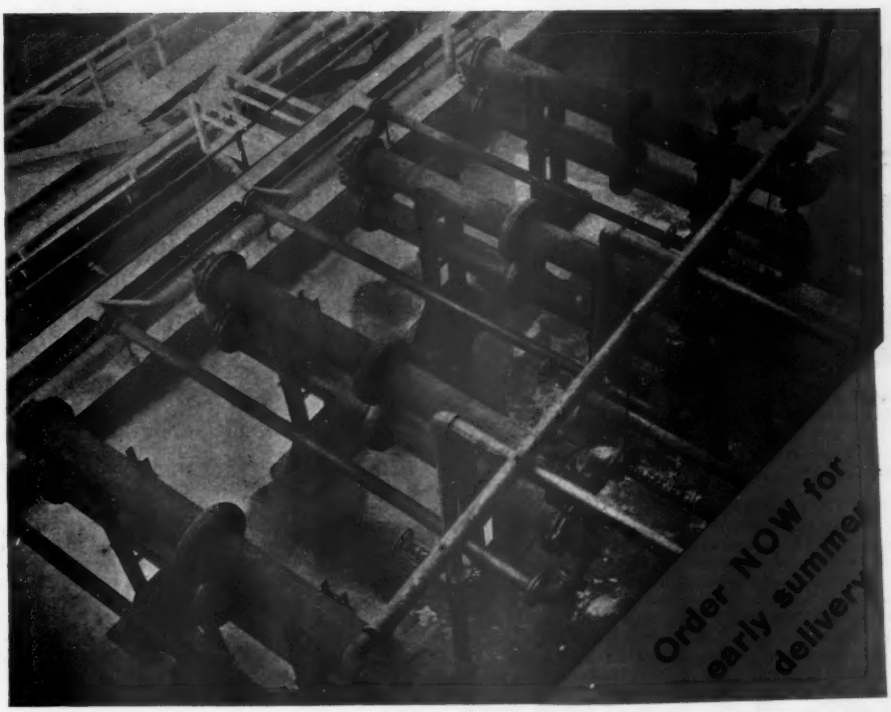
3. ESCO Tube sheets and elbows are of STAINLESS Steels. Tubes are 18-8Smo Stainless.



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Major Friend Heads Standing Committee For Stream Improvement in Southern States

● Representatives of twenty pulp, paper and paperboard manufacturers in eight Southern states, comprising more than 85 per cent of the total pulp, paper and paperboard production in the region, meeting in New Orleans Dec. 13, discussed water control, stream pollution and utilization of waste materials problems of the industries among themselves and with officials of the various state and other regulatory agencies in the region, and organized a Standing Regional Industry Committee for the Southern Region.

The meeting was held under auspices of the National Council for Stream Improvement, which has undertaken a broad program of research directed toward solution of the pulp, paper and paperboard industries' waste disposal and utilization problems.

Organization of the committee for the states of South Carolina, Georgia, Florida, Mississippi, Alabama, Arkansas, Louisiana and Texas, took place at the forenoon session. Major J. H. Friend, of Mobile, Ala., vice president in charge of the Southern Kraft Division, International Paper Co., was elected chairman of the committee, and W. F. Gillespie, of Gaylord Container Corp., Bogalusa, La., and Dr. M. L. Taylor, of Union Bag & Paper Corp., Savannah, Ga., were elected vice-chairmen and will represent the mills in the Southern region in Council affairs.

The National Council, representing the bulk of U. S. pulp, paper and paperboard industries, has undertaken a broad program looking toward solutions of all phases of waste problems involved, thrugh a balanced program of fundamental and applied research based on an evaluation of the industries' experience, an appraisal of water conditions, and a review of all prior research and development work recorded both in this country and abroad. A multiple fellowship at the Mellon Institute of Industrial Research in Pittsburgh has been established and began functioning on research problems July 1, 1944. Research programs at other institutions in various regions of the country also have been established as the various problems have been appraised by the National Council and regional committees.

The Southern region is the sixth of the U. S. regions to be organized. The South Central, Pacific Coast, Lake States, New England and Middle Atlantic regions have previously organized. These committees will play an important part in implementing activities of the National Council according to Russell E. Winget, executive secretary of the council, and Dr. Harry W. Gehm, technical advisor, who had charge of the New Orleans meeting.

Many Southern industry executives present stated that they had participated in the organization of the committee because they were impressed and pleased with the constructive and aggressive program that seemed to be shaping up for solving the industries' problems; that they realized the meeting in New Orleans was not just another get-together to talk and then forget, but was rather an organization meeting to spearhead an effective program that will work out solutions in the immediate future.

At the afternoon session, members of the committee and industry representatives discussed common problems with representatives of various state sanitary engineering departments and representatives of other regulatory agencies.

The following companies were represented: International Paper Co., Southland Paper Mills Inc., Union Bag and Paper Corp., Champion Paper & Fibre Co., Hollingsworth & Whitney Co., Gaylord Container Corp., Masonite Corp., Fleming & Sons, West Virginia Pulp & Paper Co., Brunswick Pulp & Paper Co., Rayonier Incorporated, Sonoco Products Co., Gulf States Paper Co., Flintkote Co., and Southern Advance Bag & Paper Co.

East and West SHALL Meet

A GROUP AT CHAMPION PAPER & FIBRE CO.'s big sulphite-sulphate-soda mill in Canton, N. C., met by editorial representative of PULP & PAPER INDUSTRY on a tour of the Carolinas.

At extreme upper right is C. R. P. "DICK" CASH, Assistant Sulphate Superintendent at Canton. Just 15 years ago, when Superintendent at the old Cascade mill in Tacoma, Wash., Mr. Cash was elected the first Chairman of the then newly organized Pacific Section of TAPPI. With him in the group (left to right) are: ELWOOD EBIE, Research Chemist at Canton; MRS. EBIE and MRS. CASH, a native of British Columbia and sister of TOM CORSAN, Traffic Manager at the Grays Harbor Division of Rayonier Incorporated.

Lower row (left to right): BRUCE P. ELLEN, Technical Supervisor, Sulphate Mill; WILLIAM H. ROBERTSON, Recovery Supervisor, Sulphate Mill, and nephew of the Executive Vice President of Champion, and JAMES E. HALL, Paper Manuf. Superintendent at Canton.

Many mill executives in the west and south once worked at Canton. Mr. CASH reversed the procedure when he went there in 1935 from St. Helens, Ore., Pulp & Paper Co.

A Visit at New Office Of Superintendents' Assn.

● Not so long ago the office of the American Pulp and Paper Mill Superintendents Association was in the home of Bob Eminger, then secretary-treasurer, in the little town of Miamisburg, Ohio. There's been quite a change now, and recently the eastern representative of this publication visited the new offices at 220 East 42nd St., New York 17, to describe it for those members who haven't visited there. And, by the way, George W. Craigie, now secretary-treasurer, extends an invitation through PULP & PAPER INDUSTRY to all members to call.

Two-Twenty East 42nd is the dramatic and interesting Daily News Building where the New York News is published. The moment you go through the revolving doors and enter the lobby you get a feel of great and impending world events. In the center is the largest world globe in existence, turning slowly on its chromium axis. Set into the walls of the circular foyer is equipment to show the wind velocity at LaGuardia Field, the temperature, and even the shadows of the moon. There is a great world map on which hundreds each day study the progress of the war. There are huge blow-ups of the best of News photographs which have recorded life in New York and the world around.

The office of the American Pulp and Paper Mill Superintendents Assn. is on the 25th floor, and it's a busy place, too. But Miss Pearson, Mr. Craigie's secretary, won't keep you waiting long. The genial Mr. Craigie could look out his window and watch the traffic of the East River if he weren't so busy. Since the retirement of Mr. Eminger he has a double job. He came from the industry to join the association as field man in 1938. Now he is both field man and secretary-treasurer.

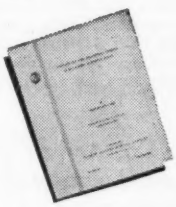
Thousands of pieces of mail go out every week, all of it to benefit members and the industry. The association recently completed a survey of equipment and supply firms to discover what new developments will be available after the war. Right now it is surveying mills to discover what equipment is to be bought when equipment is available. The two studies will be brought together as the theme for the annual convention in the Commodore, New York, June 5-7.

Duke Back at Soundview

● Arthur Duke, honorably discharged from the Seabees after service in the South Pacific during which he sustained a leg injury, has returned to his position as master mechanic at Soundview Pulp Co., Everett, Wash. He was a CPO in the Seabees.

Balancing Brightness, Strength and Economy in Bleaching Sulphate Pulps

It is commercially feasible to produce, from a sulphate pulp, grades of brightness which range all the way from the brown of the unbleached to the brightness of a fully bleached sulphite, i.e. from about 20 or 30 to 85 or 90 as determined by the G. E. Reflection Meter. However, the choice of a combination of procedures to obtain the brightness desired is a matter of selection and of balancing one result against another. Such balancing of results is also necessary to determine economy of production and quality of product.



Bulletins on Bleaching Procedures

The Hooker Technical Staff, which has been working with pulp and paper makers for many years, has made a thorough investigation of this problem. It has gathered comprehensive data to determine the effectiveness of some of the available procedures and to indicate suitable combinations of procedures for the simultaneous production of several brightness grades from a single unbleached sulphate pulp as it passes through the successive stages of a single bleaching. The results of these investigations are available in our Bulletin 243 "Procedures and Brightness Grades in Bleaching Sulphate Pulps" sent free of charge when requested on your letterhead.

Consult our Technical Staff

While you have not been allocated all the Chlorine you would like to have, what we can ship you is the same uniform high quality which has been pleasing pulp and paper makers for years. Our Technical Staff may also be able to help you with your post war plans. In addition to the Bulletin mentioned above, Hooker has available bulletins and technical papers on various phases of pulp and paper bleaching. The personal help of our Technical Staff is available to you on your particular problems.

HOOKER
ELECTROCHEMICAL COMPANY

2 Union Street, Niagara Falls, New York

NEW YORK, N. Y. • WILMINGTON, CALIF.
TACOMA, WASH.

ARMY (E) NAVY

HOOKER CHEMICALS

LIQUID CHLORINE CAUSTIC SODA

BLEACHING POWDER SODIUM SULFIDE

More Details About West Coast's First Facial Tissue Machine to Be Installed at Camas

● Sixty-one years ago, had anyone told the pioneer women of Washington territory that one day their progeny would be wiping off cosmetics and blowing their nostrils with hankies made from trees of Northwest forests, the informant would have been rated balmy and shooed from the farmyard with a broom. That long ago, the first papermill in the territory was busy turning out its single product, four tons daily of newsprint made from spruce and cottonwood groundwood and shipping it to the Portland Oregonian. There was no such folderol as turning out hankies from trees.

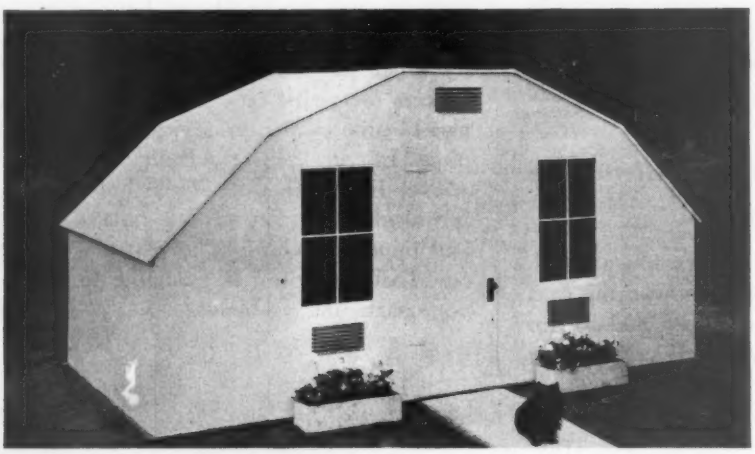
Hankies from trees? Rubbish! When these pioneer women got the sniffles, they spent an evening with their feet in a sulphur bath, took a shot of quinine and hot lemonade and climbed into bed with an ample white cloth handy to apply to their dehydrating noses. When they wanted to shed the light applications of rouge and powder they simply applied facial cream and used a white cloth to wipe it off. Either that or vigorously washed it off with soap and water.

However, this papermill which was first in Washington territory and has been operating steadily since—has made its plans and ordered the machinery for the manufacture of high grade facial tissue, an item now in high feminine favor. J. E. Hanny, resident manager of the Camas, Wash., division of Crown Zellerbach Corp., recently announced an order had been placed with the Beloit Iron Works for manufacture of a Yankee facial machine to be installed in the Camas plant (in our November issue.) It will be the first facial tissue machine on the Pacific Coast. The dryer will be 12 feet in diameter, and is designed for 100 pounds pressure. It is designed to operate at 1500 feet per minute top-speed, which is quite in contrast to its slower-moving newsprint forebear.

Crown Zellerbach have been producing facial tissue for some time in their plant at Carthage, N. Y. "Commodore" is one of the brand names under which it has been sold.

It is not possible to announce any plans for marketing the new Camas tissue product, due to uncertainty as to the manufacturing data on the machinery. Operation of this new machine and converting operations necessary to package its product will add up to additional people on the Camas payroll.

Paper House—for Emergency Uses—Survives Wind and Rain



The Paper House, 16 ft. x 8 ft. and 8 ft. high, built at Appleton, Wis.

● Near the plant of the Institute of Paper Chemistry, at Appleton, Wis., stands a paper house. It was set up by WPB and the Institute in August, and is now undergoing its first outdoor tests.

The cost of the materials is about $50, and less than $20 of this is for the basic material of the pressed waste paper panels, the remainder being for large double cellulose plastic windows, six screened ventilating louvres, panel connectors and fixtures.

"It is at the present time impossible to state the manufacturing costs in commercial production," J. A. Van den Akker, research associate at the Institute of Paper Chemistry, told the eastern editor of PULP & PAPER INDUSTRY. Mr. Van den Akker was not at liberty at this time to reveal the name of the mill or mills furnishing the basic materials, or the exact process of manufacture.

Mr. Van den Akker went on to say: "Reasonable estimates could be made if the panels were homogenous like most wallboards, but the panels of the paper house contain an inner crrugated box board, except for its much larger size (eight corrugations per linear foot). In addition to the cost of operations similar to those employed in the manufacture of corrugated box board, the panels must be given a fortifying treatment and be subjected to other opertions of the type found in the manufacture of prefabricated houses. We anticipate, however, that the manufacturing cost will be low."

No studding, or framework of any sort is employed in the house. It owes its rigidity to strength of the panels and to the joining method, and to the design of the shape of the house. Thus far the house has successfullly withstood a strong wind which did extesnive damago to nearby farm buildings, to spells of rain or mist, and has proved itself capable of giving comfortable shelter in sub-zero weather when heated by a small oilburner.

During the winter and spring seasons it will be heated constantly to simulate actual living conditions. Delivered as a package, the paper house will occupy a space of 4 ft. x 8 ft. x 2 ft. deep, and will weight 1,030 lbs.

The house is attratcive—sixteen by eight by eight feet in height. The roof is pentagon in shape. Even some of the furnishings in the single room are of paper: rug, cups, plates and lamp shades.

Purpose of the structure, if produced in comercial quantities, would be as an emergency housing project. For example, as a portable shelter for aviators forced down in remote areas, for explorers, hunters, etc.

Two workmen set up the house in 59 minutes. It can be taken down in 30 minutes.

Paper products

Hawley Co. Acquires Mill H At Oregon City

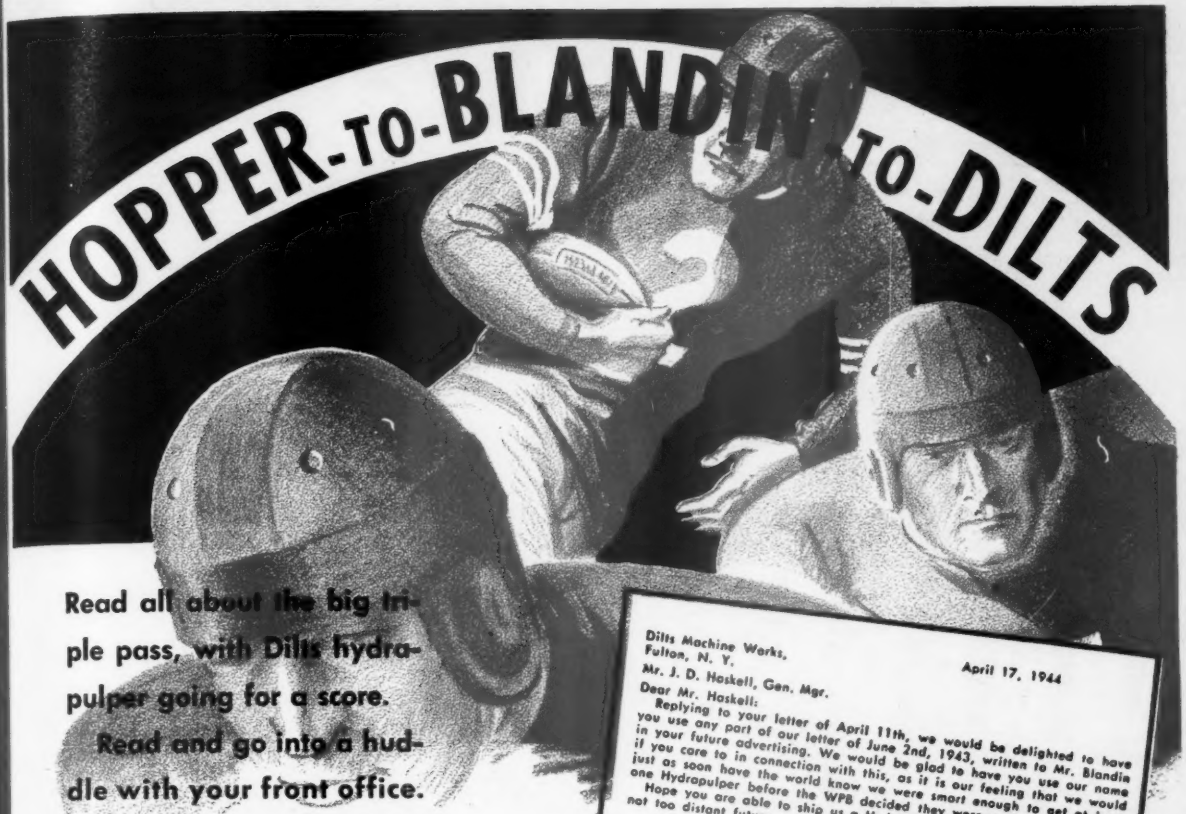
● Announcement of a transaction whereby Hawley Pulp & Paper Co., Oregon City, Ore., has acquired the grinding mill known as Mill H, together with other small properties on the Oregon City side of the Willamette River from the West Linn Division of Crown Zellerbach Corp., is made by John H. Smith, president and general manager of the Hawley company. The structure, about 150 by 200 in dimension, houses ten waterdriven grinders, wet machines, and the present sawmill of the Hawley plant.

After the Hawley cut-up plant at Milwaukie, Ore., burned early in 1934, Mill H was leased from the Crown-Zellerbach Corp., and has since been maintained and operated by the Hawley interests.

The building and site have some historical significance. Formerly the property served the OWR & N as the Oregon City dock; later the Oregon City Ice Works were maintained at the site. The ten grinders were originally installed by the old Crown-Columbia Pulp and Paper Co., and pulp was shipped to Camas, Wash., by barge and made into newsprint for Portland, Ore., newspapers.

On consolidation of the companies into Crown-Willamette Paper Co., the pulp tonnage was taken across the river to West Linn.

The property upon which Mill "H" and an included log dump stands, together with another small area, are all leased from the Portland General Electric Co., and figure in the transaction only in the change of lessee.



Read all about the big triple pass, with Dilts hydrapulper going for a score.

Read and go into a huddle with your front office. Then you, too, will be able to score.

Only one more comment: Mr. Hopper emphasizes hydrapulpers on stock for fine papers as well as for board and coarse grades.

Only one suggestion: Suppose we also "huddle" —talk this thing over— soon.

Dilts Machine Works,
Fulton, N. Y.

April 17, 1944

Mr. J. D. Haskell, Gen. Mgr.

Dear Mr. Haskell:

Replying to your letter of April 11th, we would be delighted to have you use any part of our letter of June 2nd, 1943, written to Mr. Blandin in your future advertising. We would be glad to have you use our name if you care to in connection with this, as it is our feeling that we would just as soon have the world know we were smart enough to get at least one Hydrapulper before the WPB decided they were so hard to get.

Hope you are able to ship us a Hydrapulper for use in Reading in the not too distant future.

Kindest regards,

B. C. Hopper
tnp

HOPPER PAPER COMPANY

Blandin Paper Company
E-1101 First National Bank Bldg.,
St. Paul, Minn.

June 2, 1943.

Mr. C. E. Blandin

Dear Mr. Blandin:

Thank you very much for your kind letter of May 26th.

We are glad that you liked our Hopper Paper Company brochure and are delighted to send you another one.

To be perfectly honest with you I haven't had an opportunity to go over the Blandin Paper Company publicity you sent but intend taking it home and reading it at the first opportunity.

Our Hydrapulper has been operating for a little over a year. This equipment was purchased from the Dilts Machine Company, Fulton, N. Y. We are not prone to exaggeration but believe this is the finest investment we have ever made any way you look at it. It saves power, labor and space, allows us to make more uniform paper by completely dispensing with our former beater room. We think so much of the machine that we now have a priority request into Washington for a similar piece of equipment for a mill we purchased in Pennsylvania last fall, and honestly believe that any paper mill that doesn't put this in after the war is over should have its head examined. As far as I know the only other fine paper mills that have this equipment are Sorg at Middletown, Ohio, and Crocker Burbank at Fitchburg, Mass., both of which we have visited and had the same enthusiastic reports that we ourselves give. This equipment is used quite widely in the Board and Coarse Paper industries but will really see a full development in fine papers when the war is over.

Very truly yours,

B. C. Hopper
tnp

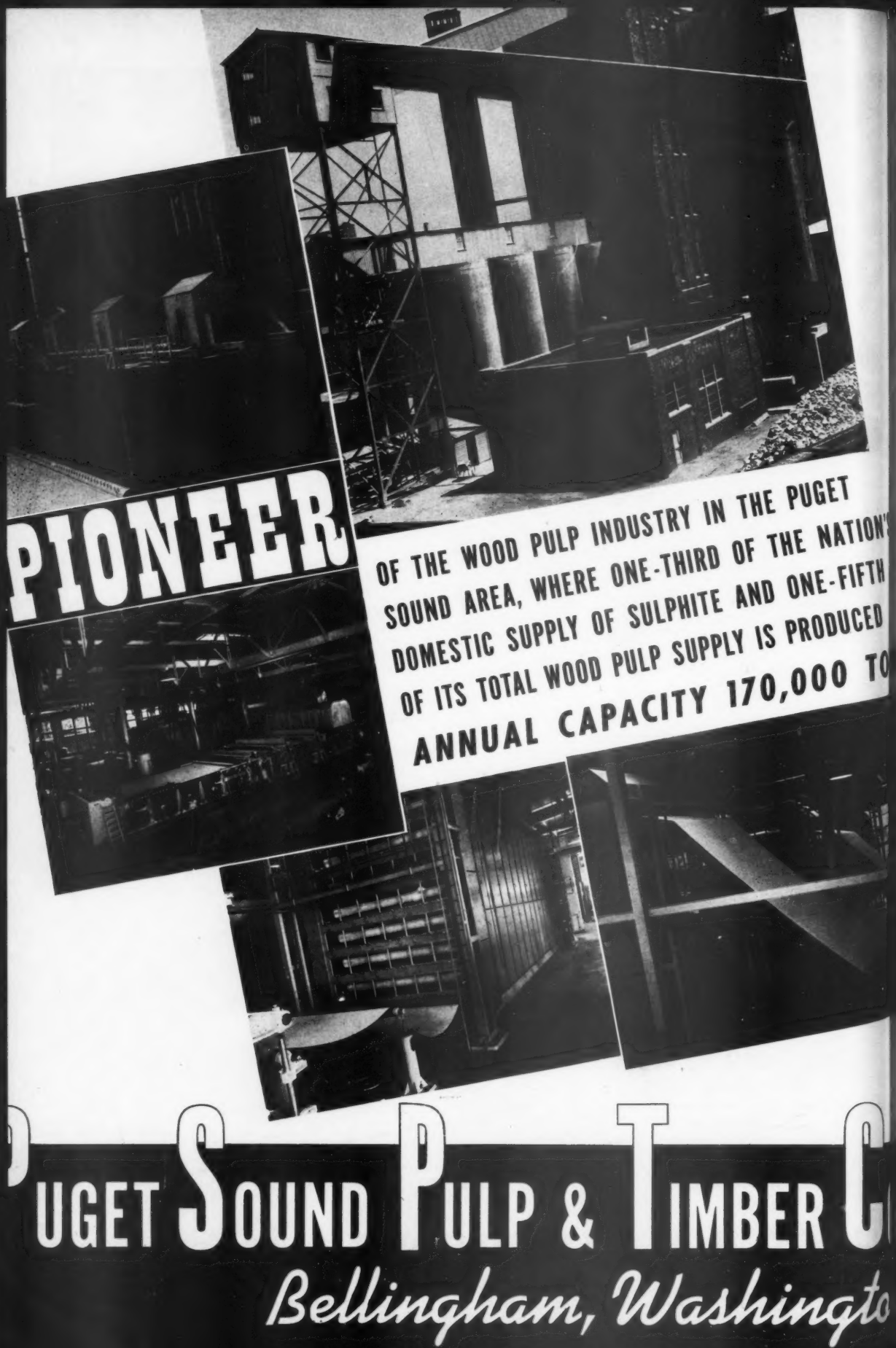
HOPPER PAPER COMPANY

President.

DILTS MACHINE WORKS
FULTON, NEW YORK
Shartle Bros., Middletown, Ohio.
Divisions of
Black-Clawson Co., Hamilton, Ohio.

HYDRAPULPERS SHARTLE Dilts

Pacific Coast Representative: MR. ROBERT PETRIE, 3206 N. E. 42nd St., PORTLAND 13, OREGON


PIONEER
OF THE WOOD PULP INDUSTRY IN THE PUGET
SOUND AREA, WHERE ONE-THIRD OF THE NATION'S
DOMESTIC SUPPLY OF SULPHITE AND ONE-FIFTH
OF ITS TOTAL WOOD PULP SUPPLY IS PRODUCED
ANNUAL CAPACITY 170,000 TO
PUGET SOUND PULP & TIMBER C
Bellingham, Washingto

PASC Hears Paper on Effluent Problems And Reports of Big Investments in Equipment

● Close proximity to the Christmas holiday did not cut down attendance at the December 21st dinner meeting of the Papermakers and Associates of Southern California, at the Rosslyn Hotel, Los Angeles. Frank H. Wheelock, Fibreboard Products Co., presided, assisted by Bruce Brown Jr., also of Fibreboard, and secretary of the association.

A gathering of 40 members and guests listened to "Waste Water Problems of the Paper Industry," delivered by a PASC member, Dr. Richard D. Pomeroy, consulting engineer and chemist, member of the firm of Montgomery & Pomeroy, Pasadena. Second half of the program was devoted to the Red Cross, whose story was told by Harry A. Nichols, of that organization.

Welcomed back to PASC, if only for this visit, was Major John B. Doyle, U.S.A., a guest of Chairman Wheelock, and formerly connected with Fibreboard Products.

The club's regular feature, "Current Events," was delivered by Gordon G. Halvorsen, Great Lakes Carbon Co., Dicalite division. He said "late reports on the pulpwood situation are less favorable due to heavy demands for military and government needs. The wood situation reported by the Forest Products Bureau of the W.P.B., indicates total receipts are not much greater than consumption, with the total inventory figure higher. In the Pacific Northwest, the trend of receipts was below consumption with inventories rising. The Department of Commerce report on production of pulpwood for the first nine months of this year totalled 12,860,000 cords compared with 10,937,000 cords in 1943 and 13,307,000 cords in 1942. This is an increase of 17.6% over 1943.

The waste paper situation, said Mr. Halvorsen, appears to remain just where it has been on the Coast. There were slight temporary improvements in corrugated and bundled news. Complaints have been registered on mixed papers, however, waste paper seems to be acceptable now no matter where it comes from. Mill demands are active with larger supplies still urgently required.

Responses to a questionnaire sent to paper and pulp mills throughout the nation on their postwar plans, he said, show a large expansion and modernization program outlined, estimated at between $200,000,000 to $300,000,000.

Those attending the dinner meeting included:

Frank H. Wheelock, Bruce Brown Jr., A. Rydall, John B. Doyle, G. E. Eberhard, Fibreboard Products; W. A. Kinney, Jerry H. Setinsky, Otto Sass, John Van Ounsem, George A. Frogner, Asger Eilersgaard, Ernest H. Lewis, Robert E. Cooper, Howard Bidwell, Pioneer-Flintkote Co.; Charles G. Frampton, Richard S. Buckley, Fernstrom Paper Mills, Inc.; A. H. Hatch, Harry F. Lilburn, V. B. Cole, California-Oregon Paper Mills; Claude M. Sharp, West Coast Paper Board Mills; William R. Monette, Gordon G. Halvorsen, Dicalite Co.; George M. Cunningham, National Oil Products Co.; Lloyd I. Ramsey, Adhesive Products, Inc.; D. Erle Arnett, Magnus Chemical Co.; Don Gayton, Peter Cooper Corporations; J. W. Braley, U. S. Rubber Co.; N. A. Hammett, Permutit Co.; Charles P. Linker, Stein, Hall & Co., Inc.; Joe S. Earhart, Heating & Ventilation Systems; Paul L. Armstrong, sales engineer; R. B. Thieme and J. L. Erdman, Valley City, N. D.

DR. ERVIN F. KURTH, appointed Professor of Wood Chemistry at Oregon State College. Commencing new duties Jan. 1, he will devote major portion of time to research in chemical utilization of forest products. His new field will be closely associated with research program of the School of Forestry and Oregon Forest Products Laboratory under direction of Dean Paul M. Dunn. The college has sponsored limited work in pulp and paper chemistry for several years, but now considerable expansion of whole field of chemical utilization of wood will be possible. Dr. Kurth comes from Army Service Forces Headquarters Staff in Washington where he served with rank of Major as representative of Army-Navy Munitions Board in Lumber and Paper Divisions of WPB. A Wisconsinite, he received Ph.D. from U. of Wisconsin in 1934, was Research Associate at Institute of Paper Chemistry, Appleton, Wis., for 5 years.

Harold Lent on Furlough

● Harold W. Lent, on military leave of absence as head of the Sales Promotion Department of Hawley Pulp and Paper Co., Oregon City, Oregon, returned on furlough from the navy. His rating is Photo M 3/c.

George G. Guild Dies In Seattle

● George G. Guild, vice president of Huntington Rubber Mills, Inc., for the past ten years, died at his Seattle residence Jan. 3 of a heart attack.

Mr. Guild, who toured mills from Los Angeles to Ocean Falls, B. C., was born in Edinburgh, Scotland, in 1873 and lived in the United States for 46 years, nearly all of that time in Portland, Ore., or Seattle. However, he was living in San Francisco at the time of the famous earthquake in that city.

He is survived by his widow, the former Hulda Holden, whom he married 40 years ago in Portland; their two married daughters, one in Portland and the other in Massachusetts, and a son, Staff Sgt. Donald Guild, a graduate of the University of Oregon, serving in the U. S. Army air transport command.

Mr. Guild made a trip to Japan several years before the first world war as a representative of the U. S. Paper Export Assn. and in an interview on his return forecast an eventual war with the Japanese.

Albert Israel Dies

● Albert R. Israel, publicity director for the Southern Pine Assn. for many years and recently Southern staff writer for American Forest Products Industries, Inc., died Dec. 22 in New Orleans. He was 66.

Mr. Israel attended the recent superintendents' meeting at Monroe, La. He was former Associated Press New Orleans bureau chief and had served on many newspapers.

Major Daughney Killed

● Major R. H. Daughney, formerly superintendent of the Nelson division, Fraser Companies, in eastern Canada, was killed recently in action in France.

Camas Man Missing

● Dick Shannon, Vancouver, Wash., an extra worker in the Camas, Wash., mill of Crown Zellerbach Corp. prior to his industcion, is reported missing in action in Europe.

Foundry work is considered more hazardous than average, but Powell River Co.'s foundry crew has demonstrated that safety of any job depends on care and efficiency of the individual, according to Evan A. Pirie, the company's Safety Inspector. The Powell River crew, Mr. Pirie says, has now operated seven and a half years without a lost-time accident, and in the ten years had only one lost-time accident. Above are members of the crew: (left to right)—Sid Allan, Jim Hamilton, Ellis Jones, Foreman Bill Graham. Al Perrson was absent when the photograph was taken.

Philosophy and Views on Labor Relations

● John W. Bagwill, labor relations manager for the Pacific Northwest mills of Rayonier Incorporated, appeared recently on a labor relations panel with union and government spokesmen at an industry personnel conference in Seattle.

Mr. Bagwill's subject was postwar strength of unions in general, concerning which he made these two points:

1. The strength of unions in the postwar period will be determined by the service they can render to the people whom they represent in a possible declining market with resultant deflationary conditions.

2. The strength of the unions will be dependent upon their adhering to the fundamental concept for which unions were organized—that is, collective bargaining with employers.

He stated that unions were, in fact, economic enterprises just as business is an economic enterprise. He pointed out .that any business or industry which had a philosophy of restriction of trade eventually passed out of the picture and that unions which developed or maintained a restrictive philosophy would eventually die, because the success of what had been called the "American way of life" or "industrial democracy" is based on the philosophy of increased productivity.

Mr. Bagwill expressed his opinion that any union which lost sight of its reason for existence—namely, to represent its members for the purposes of collective bargaining with employers, and developed into a political organization would probably not last as a labor union, because if it became too strong politically, it would become "government" and would then have a responsibility to all segments of society and therefore could not represent the particular segment of society commonly known as "labor."

In answer to a request for his opinion on the merits of the maintenance of membership clause compared with a closed shop contract, Mr. Bagwill quoted the opinion of the president of an international union by saying that he preferred a maintenance of membership clause in a contract over a closed shop contract because with the latter, the union was likely to get "soft," not having to strive continually to sell employees on the merits of being a member of a labor organization.

Victor C. Gault, personnel supervisor, Crown Zellerbach Corp., Camas, Wash., said personnel programs should be handled by a line set-up and not by a centralized office. His concept of personnel management was assisting and helping the line and observation of rules and privileges by those in top offices as much as the lowest paid employes. He urged unions to guard against limiting the possibilities of advancement of their members.

J. M. Tedford, Crown Zellerbach Corp., Camas, said real job analysis and scientific wage scales are worked out in the western pulp and paper industry with a joint management-labor board which goes into each plant and checks with both foreman and employes themselves.

Weyerhaeuser, Crown Z and Comox Officials Discuss Methods of Recovering Small Wood for Pulp

● Increasing interest of Pacific Northwest pulp, paper and logging operators in recovery and use of small wood — for many years left in the big timber forests of the west as of no commercial value —was reflected in discussions at the 1944 conference of the Western Forestry and Conservation Assn., in Portland, Ore., Dec. 7-9.

Weyerhaeuser Timber Co., Crown Zellerbach Corp., and Comox Logging & Railway Co. officials (the latter conducting experiments with Powell River Co.), told of their experiences in these new undertakings.

Harold J. Goodrich, Crown Zellerbach logging manager at Neah Bay, Wash., at the extreme northwest tip of the U. S., said as high as 98.2 per cent of the timber was pulp species where a clear cutting program without burning of slash was employed. All down saplings and all broken chunks up to 12 feet in length are taken, but all falling and bucking is done before the logging equipment is moved in.

Topographical maps are employed, because, as Goodrich put it, "You can do the logging in the engineer's office," with equipment made to fit the country.

Ladysmith Experiment

"How Far Can the Logger Go in Removing More Merchantable Material from the Land?" was discussed by R. J. Filberg, manager, Comox Logging & Railway Co., in explaining the Ladysmith, B. C., experiment. He defined the timber supply as small low grade timber, producing 50 per cent hemlock and 50 per cent other species which is piled at the landing after logging for loading on heavy stake body trucks.

A cord he set at 700 feet log scale, 250 feet board measure, or 92 feet cubic measure, although the company uses 100 cubic feet as a unit. Expectancy is 12 to 25 units per acre, with cuts down to 4 inches in some areas and 7 inches in others, with ½ of the merchantable slash taken at first, and the remaining ½ left until proven. Crews take quite an interest, he explained, although work has to be on a contract basis to assure men adequate returns.

Speaking of costs, he said they were all figured on man-days per cord with delivery to salt water, but without costs for roads or equipment. Sapling-size run from 30-80 feet in length, loaded with shovel in woods, removed with crotch line and rolled down to the water where 10-12-25 cords each are bound together with black wire for rafting.

George Melrose, of the B. C. Forest Service, one of the participants in the Ladysmith experiment, said this method removed the small flash hazard. He said the program will be expanded, and the forest service will continue to help set up such operations whenever feasible to secure more materials from forest land.

Weyerhaeuser Plan

● Ed Baker, logging superintendent of Weyerhaeuser Timber Co., Longview, Wash., explained the plan under which his company expects to operate in behalf of the pulp mill after the manpower situation eases.

He says the stand per acre, and the topography have been studied with plans for laying out roads and using an angle dozer to get at all trees 16 iches in diameter or under, so all the understory can be taken. Fallers will use light power saws, with 2½ to 3-foot blades, with three-man crews per saw, 2 to fall and 1 to cut tops off at 4 inches. Trees will be fallen away from the road, 150 to 180 feet of ⅜ line on a drum will then pull these saplings to the road where they will be left for a tractor with built-on or individual arch to haul to a landing. Exactly how this small stuff, sometimes 90 feet long, and of all lengths and sizes, will be handled, remains unsolved. Precisely what a carload lot of this stuff would look like is also unkown.

But the idea remains that a portable machine devised for the job will cut this material into 8-foot lengths and package in one cord lots loaded crosswise on flat cars with heavy end stakes. Twenty cords will comprise a car load.

Otherwise in solid stands of white fir and hemlock at higher elevations, cutting will be selective.

In Douglas fir stands, the prelogging of the under-stand is agreed upon, with later logging of the big trees for the sawmill operation at Longview.

Lowell Edwards Honored By Automotive Engineers

● Lowell Edwards, plant engineer on leave for the duration from Longview, Wash., Pulp Division, Weyerhaeuser Timber Co., has developed a pump and air-oil separator for both fighter and bomber planes which has made a distinguished contribution to fighter aircraft advancements.

The American Society of Automotive Engineers has asked Mr. Edwards to report his developments to the national convention in New York. Mr. Edwards at the present time resides at Macedonia, Ohio, as advisor to the Thompson Products Co., Cleveland, O., which purchased airplane rights to his pump.

Mr. Edwards developed the pump during his residence at Longview for eliminating problems of fuel pumping at high altitudes. It proved so successful according to tests at the Boeing plant in Seattle, that Western Gear Works offered facilities for further development at its Los Angeles plant. The actual wing tank tests showed the pump gave a much more rapid rate of climb, something very desirable for fighting planes.

Mr. Edwards is now finishing his air-oil separator. He will not return to Longview until the war is over. Donald G Felthaus is acting plant engineer at Longview

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ALUMINUM SULFATE

Standard—Lump; Ground 99% thru 8 mesh, 95% thru 10 mesh; Powdered 95% thru 100 mesh.

Iron Free—Lump approx. 2½"; Ground thru 8 mesh.

SODIUM SILICATE

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Appearance: Opalescent to clear.

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Postwar Packaging--Possibilities and Prospects

By A. F. Wendler

Manager, Acetate Films Cellophane Div., E. I. du Pont de Nemours & Co.

Following are excerpts from a talk given Dec. 15 in Boston to the New England Section of TAPPI:

● In this new postwar era, certainly the glamor and beauty of design, coupled with the advertising and promotion of the pre-war products will not be forgotten. The more recent functional requirements will also play their part and as a result, we should see the same beauty and eye-appeal we saw previously with the added characteristics of a technically-sound package. . . .

If we look at what converters have done during the war period with the materials that were available and we consider what they might do with some of the newer things we hear about, it would appear that they might give the government lessons in setting up specifications.

Besides improvements to the materials existing on the market pre-war, we hear of all sorts of new resins, plastics, adhesives and laminants in addition to transparent films of nylons, vinyls, vynil copolymers, rubber derivatives, acetates, polythenes, etc.

With the possibility that these may also, in some cases, become coatings on some of both the new and existing materials, I shall leave to your own imagination the permutations and combinations of possible packaging materials. . . .

New uses of materials are difficult to forecast, but let us touch upon a few that look promising:

In the frozen food lockers industry in 1938, there were somewhat less than 1,300 plants. By 1942 there were over 4,000, and at present the total is probably well over 5,000. This new field is certainly far from perfection or stability.

In the past, the emphasis in the frozen food field has been on "fresh frozen." The field has covered meats, poultry, vegetables and fruits. There exists a possibility for pre-cooked frozen foods which require merely heating to the proper temperature for serving. This would open a field of prepared mixed dishes of the finest flavorings, and combinations not otherwise available.

Recent listings have shown over 50 such items well on their complete developmental path, or in commercial production.

Ordnance requirements have brought to the foreground the packaging of metal and similar parts. With the world having become a much smaller place as a result of increased speeds and air travel, and the undoubted increase in world markets, the current export packaging field should continue to be a fertile field for packaging materials.

We have seen an almost miraculous growth in desiccant packaging for ordnance equipment. To date, this has not spread to the food packaging field, but it is felt that it may readily do so when it is realized that this method offers the same advantages for extremely low moisture content products against moisture pick-up that it offers to metal in the form of corrosion prevention.

A further item on which we hear considerable discussion is that of postwar air travel and air freight. In the case of the latter, it is quite illogical that packaging materials be any heavier or bulkier than necessary. This would indicate a flexible package of some type. A bit further study causes one to further qualify this specification by stipulating a vacuum flexible package for many applications.

If one desires moisture vaporproofness, leak proofness or sift proofness, it becomes necessary to seal the package completely. In air travel, with increase in elevation, pressures on the outside of the package are reduced and due to the pressure differential in the sealed package, there will be a definite tendency to blow up and perhaps fracture the wrapper. To offset this tendency requires packaging under partial vacuum at least equivalent to the reduction in pressure caused by the increased altitudes.

A parallel to the above, but taking this a step farther, is the application of full vacuum in the flexible packaging field. Associated with this step is also the use of inert gas as nitrogen and carbon dioxide in the flexible packaging field.

This will require improved materials, new equipment and new methods. Further, it will require study of gas transmission through various materials and the establishment of standardized testing procedures.

S. F. MACLAREN, formerly Asst. Eastern Sales Mgr. for Hooker Electrochemical Co., is President of newly organized Regent Pulp & Chemical Co., 52 Vanderbilt Ave., New York 17, which he formed to act as manufacturers' agent and distributor for pulp and heavy and fine chemicals.

Mr. Maclaren, of Highland antecedents, was educated at Archbishop Holgate's in York, Eng., and Tufts College, Boston, where he obtained chemistry degree in 1931. He is a member of TAPPI and ACS.

NEWS OF *The Pulp and Paper Industry--*

15 YEARS AGO

S. D. Warren Co., New England manufacturers of fine papers, announced it had become interested as investor in the Olympic Forest Products Co. and had made long term contract with the latter for sulphite pulp. Housing for digester plant and screen room of the new Olympic Forest Products bleached sulphite pulp mill at Port Angeles, Wash., was completed.

International Paper Co.'s new Dalhousie, N. B., Canada, mill began production on the first of three 125-ton newsprint machines.

Cornstalk Products Co., Euromerican Cellulose Products Corp., was sued by minority stockholders of Euromerican for $8,000,000 in certain Dorner patents.

Lyall Tracy, office manager at Port Angeles, Wash., newsprint mill, transferred his activities to the Hoquiam, Wash., mill and was succeeded at Port Angeles by J. M. Hector.

10 YEARS AGO

American pulp and paper industry presents briefs to U. S. State Department on proposed treaty with Finland, 91 per cent of whose exports to U. S. were pulp and paper products.

J. H. Cunningham, for 25 years connected with newsprint manufacturing in Canada, lately with Consolidated Paper Co., proposed that U. S. publishers should supply themselves with an estimate of delivered cost of Alaska-manufactured paper at Atlantic seaboard points. He urged development of newsprint in Southeastern Alaska in an article written for Editor and Publisher.

A. G. "Buff" Natwick, assistant manager at the Crown Willamette Co., Camas, Wash., mill, and Dr. R. M. Pickens and Ferdinand Schmitz, Jr., assistant manager of the Rainier Pulp & Paper Co., Shelton, Wash., returned Jan. 15, 1935, after two and one-half months abroad, inspecting mills in Sweden, Norway, Finland and Germany. Mr. Schmitz, new chairman of the Pacific Coast Superintendents, said he found a copy of this magazine in a northern Norway mill.

LUNDBERG'S ARTICLES TO RESUME

An outstanding editorial feature of PULP & PAPER INDUSTRY since the first installment in January, 1943—"ACID MAKING IN THE SULPHITE PULP INDUSTRY" by A. H. LUNDBERG—will be resumed on these pages in an early issue of this year.

Installments of the next chapter will deal with the subject of construction. There has been a lapse in installments because Mr. Lundberg was traveling. It is contemplated eventually publishing the entire work in book form.

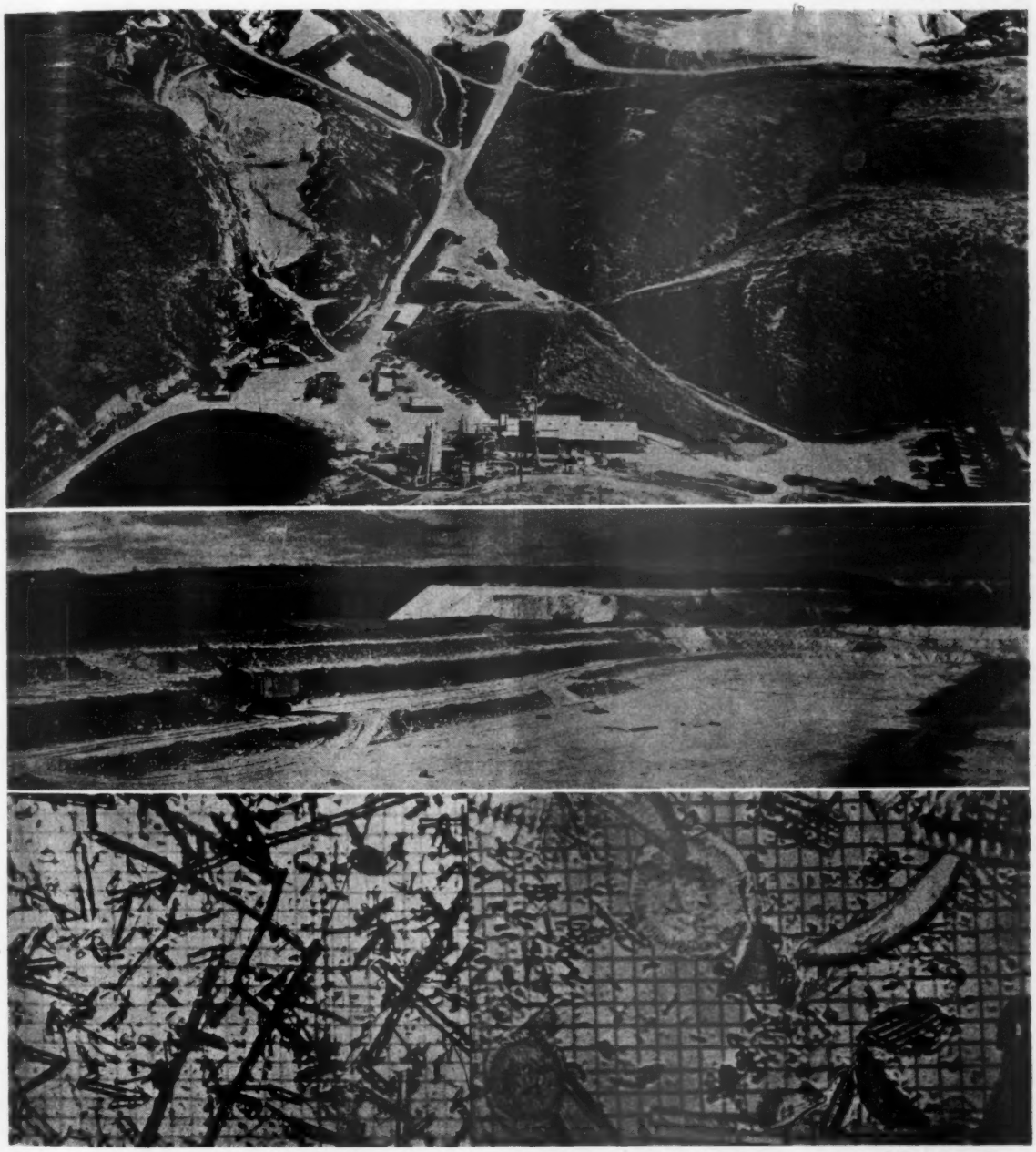
Diatomaceous Earth as a Filler for Newsprint

By L. C. HAFFNER and KENNETH A. KOBE

The following article is based on experimental work performed in the Pulp and Paper Laboratory of the University of Washington, Seattle, Wash. Mr. Haffner is now chemical engineer in Portland, Ore. Mr. Kobe is professor of chemical engineering, University of Texas, Austin, Texas.

● Fillers are a regular part of the furnish for most papers to be used for printing. Their purpose is to improve the surface of the sheet for printing and increase the opacity to minimize show-through of printing on the reverse side of the sheet. The kind of filler depends on the use to which the sheet will be put and the cost of the filler. The latter is very frequently the determining factor in the selection of the filler.

Newsprint represents one of the greatest tonnages of printing



ABOVE: AIRPLANE VIEW OF CALIFORNIA DEPOSIT AND PLANT OF THE DICALITE CO. Plant is at bottom center of picture. The laboratories, at lower right, have since been enlarged.

MIDDLE VIEW: AN OREGON DEPOSIT OF DIATOMACEOUS EARTH from which Dicalite products are made.

BELOW are two photomicrographs of diatoms. At left are a circular diatoms, a structure having advantages when used in newsprint. At right elongated type diatoms, highly effective in fillers for paper products.

stock produced. Fillers are not usually used in newsprint because their cost delivered at the mills is prohibitive in comparison with the cost of groundwood pulp. If a filler of low cost were available which gave improved properties to the newsprint its use would be considered. In the Pacific Northwest region there is available in great tonnage a material which can be shipped readily to the paper mills of the area. That material is diatomaceous earth, already on the market as a standard item for filtrations, paint pigment, etc., so that many grades already available can be tested to determine their suitability as a paper filler.

Structural Properties of Diatomaceous Earth

● Diatomaceous earth represents the deposits of skeletons from the diatom after its death. This skeleton consists almost entirely of silica. The shape of this tiny skeleton depends upon the species of diatom from which the deposit came. Some are spicular, or needle-like, in nature, others, disk-like in nature. In general, the former are of greater industrial value. Some of the important physical properties are:

Actual specific gravity		2.05
Apparent specific gravity		0.112
Particle Size	microns	½—12
Refractive index		1.48
Surface Area	sq. ft./lb.	500

These values will vary with the amount of refining the diatomaceous earth has received.

Diatomaceous earths now on the market can be divided into groups depending upon the amount of processing it has received.

1. Processed diatomaceous earth, which has been sized to free it from all foreign substances.

2. Calcined diatomaceous earth, which has been calcined at a high temperature to smooth the surface and give higher filtration rates.

3. Processed calcined diatomaceous earth, which has had chemical treatment during calcination. Subsequent chemical treatment also may be given. Higher whiteness result.

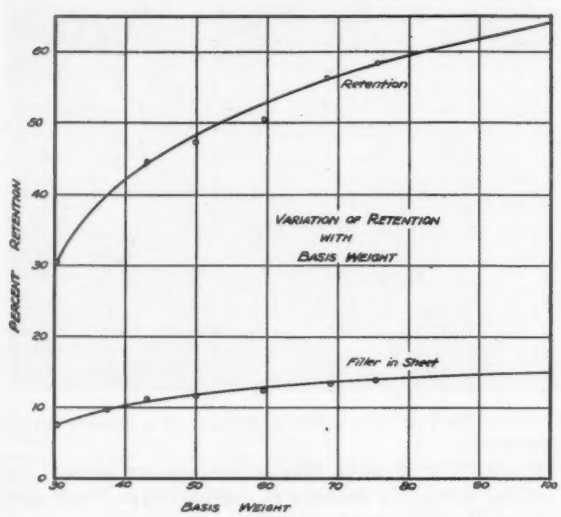
It appears that only grades of diatomaceous earth in this last group will possess the necessary whiteness and other properties which will make it suitable as a paper filler.

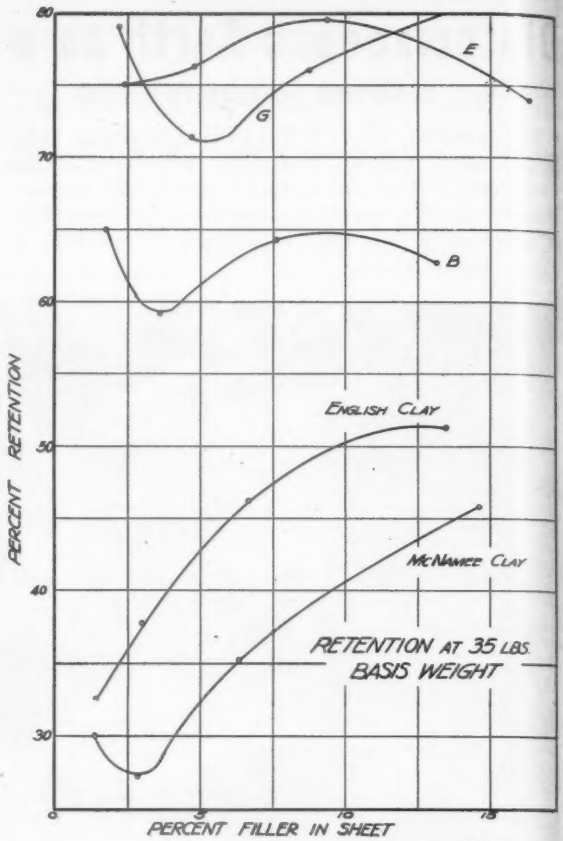
Factors Evaluated

● In order to compare the various grades of a commercial diatomaceous earth with commonly used fillers, the following factors were evaluated: brightness, retention, opacity, specific volume, mullen and tear, and print acceptance.

All tests requiring sheet formation were made with a furnish consisting of 85 per cent groundwood and 15 per cent unbleached sulfite, without size, and to which the filler was added. Wherever possible, the standard T.A.P.P.I. tests were used.

Brightness. This factor is one of importance in increasing the brightness of the western newsprints to bring them to the level of eastern newsprints made from spruce. The relative whiteness of the various fillers was determined with the G.E. reflectance meter. The values are given in the following table.





		G.E. Brightness
Dicalite	A	92.1
	B	91.5
	C	86.9
	D	86.8
	E	85.6
	F	83.2
	G	82.0
English Clay		78.9
	H	78.7
McNamee Clay		76.5
	I	58.4
	K	43.4

Thus, it is seen that the brightness of most grades of treated diatomaceous earth is superior to the clay fillers.

Retention. This is the property of a filler to remain in the sheet after it is formed and is subjected to suction and pressure to dewater it. In practice, "saveall" equipment recovers all but 0.5 to 2.0 per cent of the filler in the whitewater. Considering the large quantities of filler in circulation, large savings can be effected with fillers of high retention, because of the decreased losses through the "saveall" equipment.

The retention is the per cent of the filler charged that is retained in the sheet. Retention must be distinguished from filler in the sheet which is the ration of the ash in the sheet minus the ash of the pulp to the dry weight of the sheet. The thickness of the sheet, i.e., the basis weight, has a decided effect upon retention of fillers as shown in the chart entitled "Variation of Retention with Basic Weight," published with this article. This shows that, for a given furnish containing Dicalite F, as the basis weight is increased, the retention is increased greatly and the per cent of filler in the resulting sheet is increased.

The actual retention of various types of diatomaceous earth was determined by maintaining the basis weight close to 35 pounds, commensurate with usual newsprint gages. The content of filler in the sheet and the residue passing into the filtrate were determined. The per cent of the filler supplied to the furnish which remains in the sheet varies with the amount of filler supplied, or the amount retained in the sheet. In the chart titled "Per Cent Filler in Sheet," published with this article, the per cent retention of three grades of diatomaceous earth is shown as a function of the per cent filler in the

final sheet. With the clays, increasing the amount of filler increases the retention. With diatomaceous earth the change in retention is not regular.

The curves show that the retention of diatomaceous earth is considerably greater than that of the clays. Of the various grades of diatomaceous earth, those with the coarser particles have the higher retention. The minimum of retention for the various grades of diatomaceous earth occurs at approximately three per cent filler in the sheet and the maximum occurs in the range six to eight per cent filler.

Opacity. The opacity, or contrast ration, is determined by measuring the reflectance of the sheet alternately with a white and a black background. The ratio between the two measurements is the contrast ratio, a measure of the property of preventing the flow of light through the sheet. The greater the contrast ration, the less the "show-through." The sheets used for these tests contained three per cent filler.

	Contrast-ratio
Blank	75.7
Clay	75.7
Dicalite B	82.8
Dicalite D	78.4
Dicalite F	79.6

Thus, the addition of diatomaceous earth increases the opacity greatly, particularly with those grades having small particle size.

Specific Volume. This value expresses the bulk of the sheet attained with a given furnish. In the interest of economy it is important that the sheet appears as thick and bulky as possible. Therefore, the higher the specific volume the higher the pulp or other papermaking material is rated. Ordinarily, fillers reduce the specific volume, particularly where heavy additions are made to the furnish. The specific volumes of the test sheets were measured after beating the furnish for 40 minutes.

Specific Volume

Filler added to furnish, %	0	3	6	12	24
Blank	2.50	-----	-----	-----	-----
Dicalite E	-----	2.42	2.47	2.25	2.47
Dicalite G	-----	2.35	2.38	2.33	2.30
Dicalite B	-----	2.28	2.30	2.27	2.42
MacNamee Clay	-----	2.34	2.40	2.39	2.10
Blank	2.13	-----	-----	-----	-----
Dicalite F	-----	2.19	2.31	2.31	2.29
Dicalite H	-----	2.26	2.22	2.29	2.12
English Clay	-----	2.10	2.09	2.14	1.97
Dicalite D	-----	2.20	2.19	2.27	2.24
Dicalite C	-----	2.24	2.27	2.19	2.10
Dicalite I	-----	2.04	2.18	1.95	2.16
Dicalite K	-----	2.16	2.19	2.28	2.22

Thus, it is seen that diatomaceous earth reduces the specific volume less than clay fillers, and with some grades this factor is improved. In general, the smaller the particle size the greater is the reduction of specific volume.

Mullen and Tear. The physical strength properties of paper are measured by its bursting strength, or Mullen, and tearing strength. In this work the furnish was beaten for 40 minutes, about half the time required for a maximum value.

Mullen and Tear Values

Filler added to furnish, %		0	3	6	12	24
Blank	M	13.3	-----	-----	-----	-----
	T	39.	-----	-----	-----	-----
Dicalite E	M	-----	12.7	11.7	12.4	10.9
	T	-----	41.9	40.5	38.0	36.5
Dicalite G	M	-----	15.7	12.8	12.3	12.5
	T	-----	41.0	33.9	37.1	27.0
Dicalite B	M	-----	13.9	13.6	14.4	12.8
	T	-----	46.2	44.8	39.1	-----
MacNamee Clay	M	-----	14.3	17.9	12.6	10.3
	T	-----	38.6	36.7	38.6	27.8
Blank	M	10.0	-----	-----	-----	-----
	T	15.7	-----	-----	-----	-----
Dicalite F	M	-----	10.7	10.7	10.0	10.1
	T	-----	14.0	16.9	16.0	20.0
Dicalite H	M	-----	11.1	10.5	10.6	9.0
	T	-----	17.0	30.4	28.4	24.8
Dicalite D	M	-----	10.7	13.1	12.7	11.3
	T	-----	15.0	19.3	15.3	18.0
Dacilte K	M	-----	11.4	12.2	12.0	10.8
	T	-----	15.0	17.3	15.0	15.0
Dicalite I	M	-----	13.1	11.8	10.8	10.6
	T	-----	15.7	15.0	19.0	16.0
Dicalite C	M	-----	10.5	9.0	9.3	8.8
	T	-----	19.0	16.4	19.0	21.0
English Clay	M	-----	10.0	8.3	8.7	8.0
	T	-----	14.3	15.0	16.0	17.0

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Thus, it may be concluded that the mullen and tear values are not affected adversely with the addition of small amounts of diatomaceous earth, and with larger quantities the values are reduced less than with the usual fillers.

Print Acceptance. This factor is of great importance in newsprint where high press speeds demand acceptance by the sheet of sufficient ink to make the print legible and quick drying to prevent smudging. No standard tests exist for the evaluation of this factor. In this work the sheets were printed in a proof press, applying uniform inking of the rolls and uniform pressure. The amount of ink on the type was varied by drawing the ink rolls over the type a varying number of times. The ink acceptance is evaluated as the weight of ink picked up, while clearness of print and smudging are evaluated by visual examination.

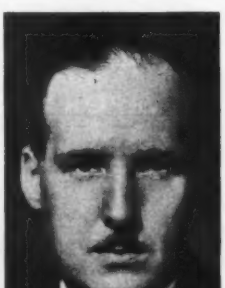
Dicalite E in sheet, %	0	3	6	12
Passes of ink roll				
1	0.0020	0.0037	0.0060	0.0016
2	0.0039	0.0034	0.0032	0.0033
3	0.0065	0.0058	0.0056	0.0045

NOTE: Slight smudging with blank. No smudging with filled sheets, which showed clearer and sharper print.

It may be concluded that newsprint containing diatomaceous earth gives a fairly constant ink pick up, and produces a clearer print with less ink and no smudging.

Conclusion

Diatomaceous earth shows superior properties as a filler for newsprint. Supplies of this filler are available in the same general region as newsprint production.



J. F. WALKER is the new Asst. Woods Manager of Quebec North Shore Paper Co. at Baie Comeau, Quebec. He has had an active career in the industry since graduating from University of New Brunswick in 1932 with B.Sc. in forestry. Was granted an M. Sc. in forestry this year in recognition of recent work with Pulp and Paper Research Institute of Canada on efficiency of technique in cutting, skidding, hauling and driving pulpwood.—(Photo by Notman, Montreal).

Service Pins Given To San Francisco Staff

● Presentation of service pins by H. L. Zellerbach, president of the Zellerbach Paper Co., San Francisco, was the highlight of the Christmas party of the home office, Dec. 21.

Pins were presented to George Johnson, 40 years; Walter Eva, 40 years; Clyde Higgins, 30 years; Jack Connolly, 25 years; John Laengle, 25 years; Walter Wilmas, 25 years; Merton Wells, 25 years; and Don Dyche, 10 years.

On Jan. 3 there was a meeting of the Quarter of a Century Club, composed of employees of the company who have been employed for 25 years or longer. Each member received a shiny 25-cent piece minted in the year in which he joined the company. Thirty-seven of 41 members showed up.

Charles E. Burgess, employed by the Zellerbach company longer than any one else, 48 years, presided at the meeting. L. A. Colton, vice president, who in June of this year will have served 47 years, was called on.

Puget Sound Pulp Leads County In Drive

● Puget Sound Pulp and Timber Co. of Bellingham, Wash. not only oversubscribed by several thousand dollars its quota in the 6th War Loan Drive but it was the first industry in Whatcom County to reach its quota Carl Paulsen, union representative and G. A. Okerlund, personnel manager, were co-chairmen.

Petrie's Son In So. Pacific

● Lieut. Gordon Petrie, U. S. Army Signal Corps, and son of Robert T. Petrie of Portland, Ore., Pacific Coast representative of Black-Clawson Co., Hamilton, Ohio, has been in the South Pacific since late fall.

Wins Combat Honors

● First Lt. Verle L. Roth, 24, former roll wrapper in the finishing department of the Crown-Zellerbach mill in Camas, Wash., has been cited for the Distinguished Flying Cross and the Air Medal with three Oak Leaf Clusters.

Two Everett P. & P. Men Killed In Action

● Memorial services were held recently in the recreation room of the Everett Pulp & Paper Co., Lowell, Wash., for two former employes killed in service overseas.

The men thus honored were St. Sgt. Ronald O. Gulbrandson, an employe for six years who was killed in a vehicle accident in France Nov. 3, and Pvt. Ranford Johnson, an employe two years, killed on Leyte Island in the Philippines invasion.

Merritt Wilsons Honored

● Mrs. Merritt Wilson, wife of the purchasing agent of the Crown Zellerbach mill at West Linn, Ore., sponsored the recently launched Victory ship West Linn at Oregon shipyards in Portland. Mr. Wilson, who is mayor of West Linn, also participated in the ceremony.

Receives Son's Medal

● On behalf of Lieut. Jack Sundberg, his son, A. L. Sundberg, Zellerbach Paper Co., San Francisco, received the Air Medal with a Presidential Group Citation at ceremonies at Hamilton Field, Calif. Lt. Sundberg, a former employee of Crown Zellerbach Corp., is a prisoner in Germany.

Hawley Breaks Record

● An all-time high for purchase of war bonds was set by employes of the Hawley Pulp & Paper Co., Oregon City, Ore., during the Sixth War Loan Drive when a grand total of $174,555 went into government bonds. Officials of the company praised Fred Rogers, plant chairman of the drive, for the conduct of the campaign.

Coos Bay Bond Sales

● Coos Bay Pulp Corp. was the first Coos Co., Oregon, industrial plant to announce passing of the 6th War Loan quota. George Blessing, assistant manager, said the employes would attempt to redouble through special purchases. Harold Hillier, chief chemist of the plant acted as payroll treasury representative.

Longfibre Bowlers

The Longview Fibre Co. bowling league of Longview finished the first half of the scheduled season with the Mechanics far ahead. The standings:

Team	W	L	Pct.
Mechanics	45	11	.804
Pipefitters	35	21	.625
Machine Room	32	24	.571
Bag Plant	27	29	.482
Supervisors	27	29	.482
Box Plant	24	32	.429
Pulp Mill	23	33	.411
Office	13	43	.232

Crown Zellerbach Planting 1,000 Acres In Oregon

● Crown-Zellerbach Corp. is engaged in planting some 1,000 acres of land where seed trees had blown down and left large spaces without seed source. Approximately a million seedlings will be planted on this area at Tillamook Head, Ore.

Trees being planted are Port Orford cedar and Sitka spruce. Later other tracts will receive attention. These lie on the divide between the Necanicum and the Lewis and Clark River. John Straight is in charge.

A Pictograph
OF EFFICIENT DUST DISTRIBUTION

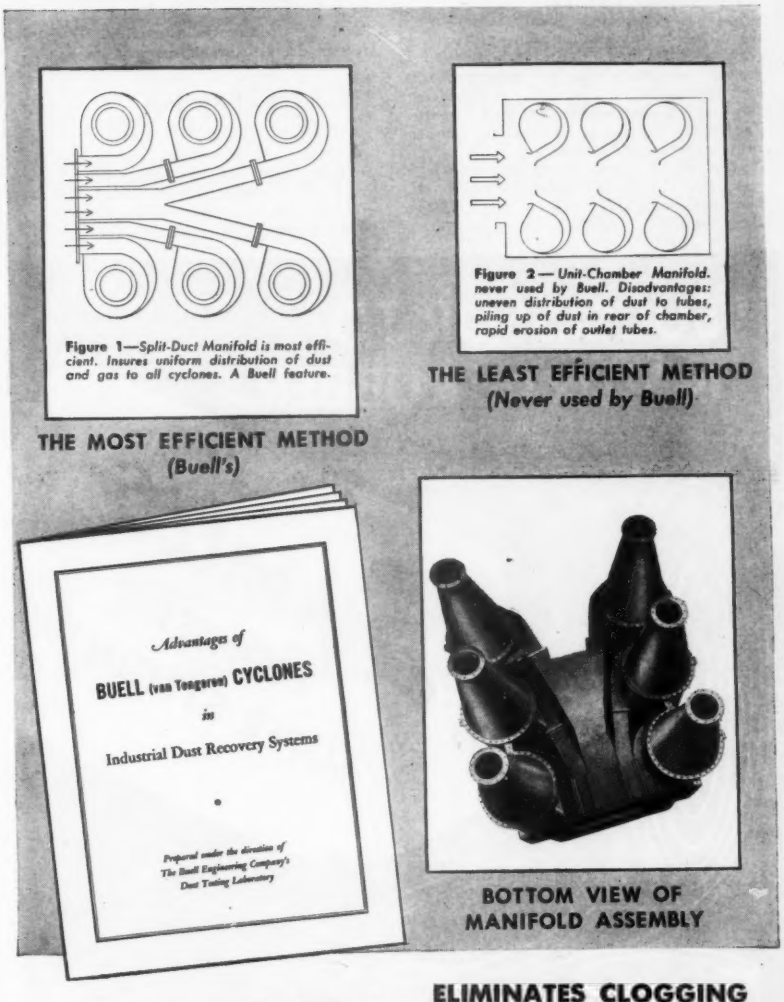


Figure 1—Split-Duct Manifold is most efficient. Insures uniform distribution of dust and gas to all cyclones. A Buell feature.
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Figure 2— Unit-Chamber Manifold. never used by Buell. Disadvantages: uneven distribution of dust to tubes, piling up of dust in rear of chamber, rapid erosion of outlet tubes.
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Buell Design **ELIMINATES CLOGGING**
MINIMIZES EROSION

The scientific development of inlet manifolding for multiple unit cyclone dust collectors has played an all important part in the uniform distribution of both gas and dust in cyclone collectors. How proper manifolding is achieved in Buell Dust Recovery Systems is shown in the pictograph on this page. What happens when the dust load is not uniformly distributed, and how serious these disadvantages may be, is best described in the bulletin shown on this page, from which these two manifold sketches were taken.

BUELL ENGINEERING COMPANY, INC.
70 Pine Street, New York 5, N. Y.
Sales Representatives in Principal Cities

DESIGNED TO DO A JOB, NOT JUST TO MEET A "SPEC"

Chicago Paper Group Meetings Are Popular

● The Chicago Professional Paper Group is now in its second year and meetings are being "enthusiastically attended," reports A. G. Hepburn, 1919 Conway Bldg., Chicago (2), in behalf of the executive committee.

"This cross-section group is serving a very definite purpose in bringing together various branches of the industry for a better understanding of the problems, developments, etc., which have a direct bearing on the function of paper manufacturers, suppliers, converters, jobbers and technicians," he said.

The third Monday of the month is now the choice for meeting night, the last one being Dec. 18 in the Chicago Bar Ass'n.

Makes Paper Roll Plugs

● Lebanon, Ore., has become the home of a new industry, familiar one to the pulp and paper business, with establishment of Lebanon Wood Products, under ownership of E. M. McDonald, former sawmill operator.

The new plant will manufacture paper roll plugs using two modern lathes capable of producing approximately 30,000 plugs daily. Alder logs will be used.

Harry A. Thurlow, Jr., Goes To Port Angeles Mill

● Harry A. Thurlow, Jr., on the engineering staff of the Hoquiam, Wash., mill of Rayonier Incorporated has been transferred to a similar position at the Port Angeles, Wash., mill.

In the Pacific Northwest Distributed from: 322 Occidental Avenue, Seattle 14, Washington.
784-B 1010 "A" Street, Tacoma, Washington. • 400 S. W. First Ave., Portland 4, Oregon.

Wyckoff to Berkeley, Calif.; Alfred Hall Succeeds Him

● Stephen Wyckoff, since 1938 director of the U. S. Forest and Range Experiment Station at Portland, Ore., has been appointed director of the California Forest and Range Experiment Station at Berkeley, Calif., a position which has been vacant for some time.

Dr. J. Alfred Hall, principal biochemist of the Forest Service, whose development work on processes for making alcohol from wood waste recently attracted natinwide attention, has been named director of the Pacific Northwest Forest and Range Experiment Station at Portland, Ore.

Dr. Hall took an important part in initiating the $2,500,000 Defense Plant Corp. alcohol-from-sawdust plant now being built at Springfield, Ore.

Forest Service Expands Chemical Studies In West

● Stephen N. Wyckoff, director of the U. S. Forest Service's experiment station in Portland, Ore., announces expansion of that organization's work in chemical utilization of wood, such as plastics, distillation for charcoal, hydrolysis for production of alcohol, yeast, etc.

In line with this expansion, Dr. Edward G. Locke, recently with the Industrial and Resources Development Div., Bonneville Power Administration, has been appointed chemical engineer on Mr. Wyckoff's staff.

Moe Goes to England

● K. M. Moe, consulting engineer for Norwegian pulp and paper industries, has gone to England after a tour of U. S. mills. He is expected to return to New York where he has an office with Det Norske a/s For Electrokemis Industri, USA Branch, at 101 Park Ave.

Willits & Co., To Sell Anheuser-Busch Starches

● Anheuser-Busch, Inc., St. Louis, Mo., has appointed Willits & Company, Inc., 1 Drumm St., San Francisco, as Pacific Coast Sales representatives for their line of corn starches, corn dextrines, corn gums and British gums.

In charge of sales will be Fred W. Bloch, vice president of the Willits company, who has had many years of experience in the starch business.

In early January, E. P. Gillan, technician with Anheuser-Busch, Inc., was to be on the coast to call on mills with Mr. Bloch.

Bulkley, Dunton Promotes Film for Foil or Paper

● Harold W. Kephart, former assistant vice president of Reynolds Metals Co., is head of a newly set up foil and packaging Division of the Bulkley, Dunton organization. Working with Jack Wilson, head of B-D's specialty papers division, Mr. Kephart will concentrate efforts on development and promotion of packing materials, including that produced by the recently perfected method of casting protective films on to paper or foil. This comparatively new procedure in making highly versatile packaging materials with or without lamination opens up great possibilities in the development of new packages offering superior protection and greater eye-appeal.

Georgi Heads Division For Penn Salt

● Edmund A. Georgi, formerly manager of technical development, Papermakers Chemical Dept., Hercules Powder Co., has joined the Research and Development Dept. of the Pennsylvania Salt Manuf. Co., as director of the special products division. Dr. S. C. Ogburn, Jr., manager of the Research and Development Dept., announced the appointment. The special products division includes laboratory and field work in evaluation of new products, and in carrying out service work requested by sales and manufacturing depts.

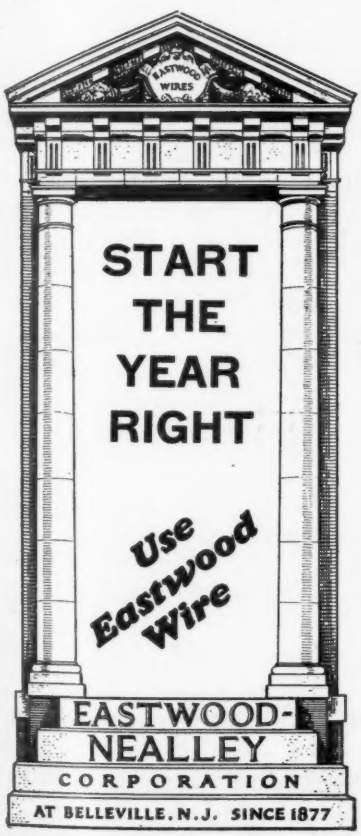
A. P. W. Co's New Name

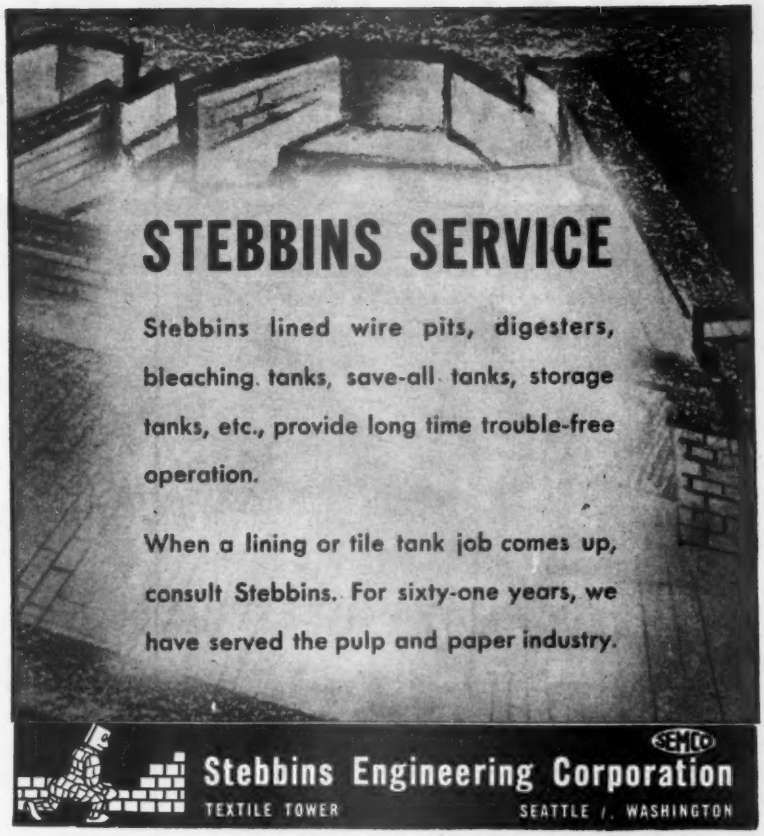
● The 76-year-old A. P. W. Paper Co., Albany, N. Y., has changed its name to A. P. W. Products Co., Inc.

Dwight G. W. Hollister, president, notified this magazine that there is no further announcement of plans to be made except that the company's paper products—the Red Cross lines of towel and tissue—will be continued unchanged. However, some non-paper products will be added.

Official Changes in Rust Engineering Co.

● S. M. Rust, retiring president of The Rust Engineering Co., has been elected chairman of the company's directors; and S. M. Rust, Jr., executive vice president, has been elected president of the company. The company maintains offices at Pittsburgh, Pa., Birmingham, Ala., Washington, D. C., and New York, N. Y.

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Stebbins lined wire pits, digesters, bleaching tanks, save-all tanks, storage tanks, etc., provide long time trouble-free operation.
When a lining or tile tank job comes up, consult Stebbins. For sixty-one years, we have served the pulp and paper industry.
SEMCO
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Wilbert Joins Elof Hansson

● T. R. Wilbert, for the last five years in the sales department of Rayonier Incorporated, has joined the staff of Elof Hansson, Inc., 10 East 40th St., New York (16).

Gunnar T. Hansson, president, said Mr. Wilbert will have charge of the company's pulp department and assist in the paper export department.

Andersons To Continue Brokerage Firm

● Erik B. Anderson has opened an office at 522 Fifth Ave., New York, to deal in paper, pulp and allied commodities. Capt. Rolf B. Anderson, U. S. Army Air Force, plans to join the enterprise in termination of service.

The announcement says they are starting on "a moderate scale" but "shall do our utmost to keep alive the precedent and tradition set for us by the late Jack Anderson."

Instrument Latboratory's Star

● The Board of Awards of the U. S. Maritime Commission has awarded The Instrument Laboratory, Inc., 934 Ellott Ave. West, Seattle(99), a gold star to add to its M pennant for its production of salinity indicating equipment for ships, according to R. M. Humphrey, secretary.

The company supplies and repairs instruments for pulp and paper mills.

Bailey Visits Coast

● Ed Bailey, Coast representative of the International Paper Co., New York, N. Y., was a recent visitor on the Coast.

Speaking of
NEW YEAR Resolutions...

PUGET POWER will continue being a good tax-paying citizen of this State, cooperating to the fullest extent with all other citizens in bringing new payrolls — creating more jobs — for our State. We will furnish the best, most courteous service at the lowest rates possible.

PUGET SOUND POWER & LIGHT COMPANY

at the Wet End...

Tending a paper machine is much like tending a baby — most of the troubles begin at the wet end. This explains why experienced paper manufacturers equip the wet ends of their machines with Hamilton Felts. There is mighty little wetness left in a sheet when it leaves a Hamilton Felt and begins its journey to the winder and slitters. In fact, it is so dry and so well formed that the finishing process requires little time and less steam. Broke is insignificant.

From the thinnest tissue to the heaviest board there is a Hamilton Felt that will do your work better, faster and at lower cost.

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as

Sole Licensee

in Canada

for Hydro-Heater applications

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The design and application of the Hydro-Heater is fully covered by patents in Canada and the United States, and infringements thereon will be prosecuted.